



PARMACEUTICAL AND ANALYTICAL STUDY OF AMRUTMANJIRY VATI

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Abstract: In the present research paper the work done on pharmaceutical and analytical study of amrutmanjiry vati conducted in the department of Rasashastra and bhaishajaya kalpana under the post graduate research program is being presented. The pharmaceutical process of Amrutmanjiry vati was performed by following the scientific processes like shodhana of hingul,vatsanbha as well as tankana.. shodhana of vatsanabha it was being carried out by **two different methods** so as to remove the toxic effects of vatsanabha because this vati can be used in elderly persons to cure the diseases like Jwara and Amvata. Then all ingredients are converted into fine powder and mixed thoroughly so as to form a identical mixture which is subjected to form a vati (tab) of 250 mg by using multi station Tableting machine .After vati nirman analytical study was done for standardization purpose including total ash,acid insoluble ash ,limit test for heavy metals ,tab disintegration time etc.

Key words : Amrutmanjiry vati,vati,Rasashastra,bhavana,Shodhana,choorna

I. INTRODUCTION

Ayurveda is a holistic life science and its purpose is to prevent the disease as well as to treat the disease if occurs. Rasashastra bhaishajya kalpana are the part of Ayurveda wherein the pharmaceutical processes and technology is explained .Amrutmanjiry vati is a herbomineral formulations to treat the commonly occurring diseases like Jwara ,Amvata,kasa ,shwasa ,sarvanggraha etc.by which Amvata is such a disease which is very difficult to treat .in the present study the pharmaceutical and analytical work of Amrutmanjiry Vati was conducted in the Dept of Rasashastra and bhaishajya kalpana under the post graduate research program .For this purpose standardization of the present drug is required which is done in this present study after making a uniform vati (tab) by using multi station tableting mechine .

Materials and methods

Procurement of raw material

This present study of Amrutmanjiry vati was carried out with reference from rasendra sar sangrah and bhaishajya ratnavali .for this study the required raw material like Hingul,Vatsanabh ,Tankan,Marich ,Pippali and Javitri were collected from local market after authentication .nimbuk was purchased from local market for hingul shodhana .gomuta and godugdha was procured from govidnyan sanstha Nagpur.Jambir was collected from the field of Mr.Aratpayre at post champa near Nagpur .

Pharmaceutical processing

Shodhana of Hingul (Hgs)

This procedure was carried out as per reference by Rastarangini Tarang 9/12

a)Preparation of accessory drugs : Ardrak swarasa was prepared as per classics for the purpose of hingul shodhana

b)procedure:

Ingredients: Ashuddha(impure)Hingul 850g, Ardrak Swarsa 180 ml

This process was carried out by taking ashuddha Hingul 850g in a khavayantra and Ardrak Swarasa (zingiber juice) 180ml was added slowly with spoon till hingula will get immersed in ardrak swarasa .then trituration was done continuously for 4 hours till it will get semisolid and allowed to dried till the next day.and this process was repeated for 7 times. and it was weighted and found 930g and this increase in weight is because of bhavana by ardrak swarasa for 7 times.It took 9 days to complete the process.

Shodhana of vatsanabh no 1

It was carried out as per ref.of siddhayoga smgraha page no 166 and ayu sarsangraha p.no.229,dravayaguna vidnyan by P.v.Sharma p no 110

a)preparation of accessory drugs

gomutra and godugdha were procured from govidnyan anusandhan sanstha Nagpur, Maharashtra in a appropriate quantity

b)procedure

ingredients

Vatsanabh 1.5 kg

Gomutra 5 lit

After cutting into small pieces (chanakvat)vatsanabha was dipped in gomutra which was kept in mrutpatra (earthen pot) for 3 days and gomutra was changed every day and quantity of gomutra was the same for every day..after day 3 ,swollen vatsanabha was taken out and washed repeatedly with water so that gomutra smell will disappear..

Shodhana of vatsanabh no 2

Aparatus /instruments ;Dolayantra

Accessory drug :

Godugdha 8 lit

Procedure :

Ingredient:

Gomutra shodhit vatsanabha 2.1 kg and godugdha 8 lit

With the help of dolayantra this process was carried out .vatsanabha was put in dolayantra which was filled with godugdha and this was kept on mandagni for 3 hrs and then after all pieces of vatsanabha was taken out ,washed thoroughly and kept in try to dry after removal of superficial skin on it with the help of knife.It took 7 days to dry and then weighted and powdered .the wt was 770 gm and loss after shodhana was 780 g.

Precaution:

The skin over tuberous root of vatsanabha should be removed as it contains more amount of aconitine.

Shodhana of Tankana :

As per Rastarangini RT 13/77-78 the shodhan process was carried out.no accessory drug was required .

Ingredient:

Ashuddha Tankan (chaukiya tankan) 1.5 kg

By using mixer grinder, coarse powder of tankana was done and in lohdarvi (iron pan) and was kept on tivragi(intense fire) till it become free from water and become lighter . Then allowed to cool and weighted .it was found 850 gm .For this process total time required was 6 hrs.This process was carried out because it may cause vaman and bhranti if used impure

Precaution:

Complete water evaporation should take place from tankan after heating.

Choorna process of Marich ,Pippali ,Javitri

Removal of Foreign matter

In this process foreign matter in marich ,pippali, Javitri were removed separately.

Process of choorna

In this process Marich,Pippali,Javitri are made in to very fine power by using mixer grinder and different meshes of different size and kept separately in closed air tight container.

Observation table

Preparation of homogeneous mixture :

In this process all ingredients that is shuddha Hingul,Shuddha Vatsanabha,shuddha Tankan and all churnit dravya Marich,Pippali,Javitri in the same proportion are taken separately in large size sthali yantra and mixed together with the help of spoon till it becomes homogeneous .After preparation of homogeneous mixture this is taken into khalva yantra for further process .total weight after homogeneous mixing was 4.5 kg

Process of Bhavana Sanskar:

Aparatus: Big size khalva yantra,cloth, mixergrinder,measuring jar

Ingredient:

Amrutmanjiry mixture 4.5 kg ,Jambir swarasa 2800 ml, Ardrak Swarasa 2000 ml

Procedure:

After preparing homogeneous mixture it was taken in big sized khalvayantra for bhavana saanskar by jambir swarasa which was obtained by the method given in sharangdhar samhita madhyama khanda chapter1.then it was mixed till it will immerse the mixture. After adding jambir swarasa the color of the mixture was changed to reddish brown.Then after triturating for 3 hrs ,the mixture became semi solid .the same procedure was carried out 3 times. Then it was allowed to dry for 2 days till it became total dry.after bhavana of Jambir swarasa as per bhaishajya ratnavali Ardrak (zingiber juice) swarasa was prepared by swarasa method and then it was measured and mixed in the mixture for vati formation.it was weighted and found 4.8 kg after drying.

Amrutmanjiry vati nirman:

Apparatus and equipments:

Electronic weighing machine,tableting machine , Air tight container 5,granulator etc.

Procedure:

After weighing total mixture it was subjected to granulation process by using granulaor .uniform granulation was made and with the help of tableting machine ,tablets of 250 mg each was prepared from 4.8kg mixture without adding any binding agent .total no. of tab was 18856(4.714 kg).then it was kept in air tight containers after panchabhautik parikshna

Analytical study of Amrutmanjiry vati:

For this study 50 g vati was packed in a air tight container and study was carried out at Qualichem Laboratory,dharampath Nagpur,Maharashtra.under the guidance of Mr.Nagarnayak sir.in this study all essential tests required for the standardisation of vati and especillay Amrutmanjiry vati like disintegration time,limit test for heavy metal etc were carried out.and results were shown in observation table no 5

Observations**Table 1: showing shodhana effect**

Dravyanam	Colour	smell	appearance	Wt .before shodhana	Wt. after shodhana
Shuddha Hingul	Sindurabh.,bright	Not specific	Fine powder	850 g	930g
Shuddha vatsanabha	Pale yellow	Not specific	Fine powder	1.5 kg	770g
Shuddha Tantana	White	Not specific	Fine powder	1.5 kg	850g

Table 2: showing changes after choornikarana

Dravyanam	Colour	smell	appearance	Rasa	Wt .before shodhana	Wt. after shodhana
Marich	Whitish black	specific	Fine powder	Katu	1 kg	860g
Pippali	Greenish yellow	specific	Fine powder	Katu	1 kg	830g
Javitri	Redish yellow	specific	Fine powder	Tikta,katu	1 kg	780g

Table 3: showing changes of Amrutmanjiry homogeneous mixture:

Dravyanam	color	smell	appearance	rasa	Bhavanaoorva mana	Bhavanapashchatt mana
Amtutmanjiry Mishran	Reddish brow	Specificard rak gandh	Powder form	Katu	4.5kg	4.8kg

Table 4 showing result of final product (Amrutmanjiry vati):

Dravyanam	Shabda	Sparsha	Rupa	Rasa	Gandha
Amrutmanjiry vati	-	soft	Reddish brown	Katurasa pradhan	Vishishta

Table 5: Showing analytical findings of Amrutmanjiry vati

Sr no	Test	Standard	Result	Remark
1	Description –reddish brown colour tab			-
2	Size 9mm x 3 mm			-
3	Average wt of tablet		0.2545g	
4	Uniformity of weight		+1.6,-1.68	Passes
5	Disintegration time	15min	6 min	Passes
6	Moisture per tablet		0.0161g	-
7	Total ash per tablet		0.044g	-
8	Acid insoluble ash per tablet		0.0013g	-
9	Alcohol extract per tablet		0.290g	--
10	Water extract per tablet		0.1265g	-
11	Mercury as Hg per tablet		0.036g(14.14%)	-
12	Sulphur as S per tablet		0.006g(2.36%)	-

Discussion

Amrutmanjiry vati is a unique herbomineral formulation which is very safe and effective while treating the diseases like Jwara ,Amavata as modern medical science is not having remedy to treat Amvata (rheumatoid Arthritis) except steroids and pain killers. keeping this view in mind this drug was selected for this study.this reference was taken from bhaishajya Ratnavali by lalchand vaidya and rasendra sarsangraha and prepared in the dept of rasashastra bhaishajya kalpana as a part of post graduate research .Before starting the production ,all raw drugs were authenticated by the hod and guide.under this formulation 6 main constituents are there out which 3 drugs(hingul,Vatsanabha ang tankan) are considered for the process of shodhana as a part of impurities (physical and chemical).separate shodhan processes(specialized technique for the removal of impurities) were carried out for each drug. This shodhan process can decrease the toxicity and increase the efficacy of the drug.

Hingul Shodhana :

In this process as per text Rastarangini 9/12 ,hingul was triturated 7 times with Ardrak swarasa(zingiber juice) and after shodhana process it was thoroughly washed with water and weighted .the wt of the hingula was increased by 80 g and color was also changed and became bright.

Vatsanabh Shodhana:

This procedure was carried out as per ref of rastarangini and Dravyaguna vidnyanin this process it was kept in gomutra for 3 days and then subjected to swedana process by dolayantra using godugdha .when it was kept in gomutra the color of gomutra was changed and became darker and after swedana in dolayantra the vatsanabha pieces were swollen and wt was increased by 600 g.Ashudhha vatsanabha contains 0.4 to 0.8 % diterpine alkaloids and more concentrated aconitine (0.3 to 2%) but after shodhana the total alkaloid content decreases possibly because of antitoxic effect of gomutra which converts toxic aconitine into aconine. gross wt loss was found after shodhana near by 50%

Tankana Shodhana :

Tankan shodhana was carried out as per ref .of Rastarangini tarang 17 /77 -78

As per the reference it was subjected to heat treatment into an iron pan after converted into coarse powder with help of khalva yantra till it will attend the stage of Nirjalikaran (complete evaporation of water from the substance)the aim was to remove waer molecules from it.after shodhana $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10 \text{H}_2\text{O}$ is converted in to $\text{Na}_2\text{B}_4\text{O}_7 \cdot 5\text{H}_2\text{O}$.As it is anti dote of vatsanabha it will prevent the cardiotoxicity due to it. Total loss after shodhana was 650g

Choorna process:

All herbal drugs like Marich ,Pippali,Javitri are made into fine powder by using mixer grinder and different meshes as per reference in sharangdhar Samhita madhyama khanda 6/1

Preparation of Amrutmanjiry Vati:

As per ref of baishajya ratnavali Amvatadhikar 171 -173 this procedure was carried out .in this process all the ingredients in equal quantity were taken together and bhavana of jambir swarasa was given thrice followed by bhavana of ardrak swarasa till it became dry .and this whole mixture was subjected for formation of tablet (vati).by using multi station tableting machine each weighing 250 mg .

Analytical Study (standardization)of Amrutmanjiry vati:

All required analytical tests for standardization of vati was done at Qualichem Lab,Nagpur ,.this formulation passed all tests for standardization. Avarage wt of tab was 0.2545g,uniformity of wt +1.6 -1.8 and disintegration time was 6 min also it passes limit test for heavy metal.

Conclusion:

Pharmaceutical study(including standardization) of every drug is is useful especially the drugs which are used for very common clinical condition like jwara, amvata (rheumatoid arthritis), arthritis etc .for the establishment of its clinical efficacy .before actual use in patients all the ingredients were authenticated and purified as per guideline given in texts.vatsanabha is a poisonous compound but after shodhana it became very useful to the patient and increases its therapeutic efficacy. The pharmaceutical procedures involved in this study are Shodhana ,mardana ,swedana , vati nirman and analytical study .This is an effort made for rendering a safe and effective herbo mineral formulation.

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