STUDIES ON THE STANDARDISATION OF CURNAS PART – II TALISADYA CURNA

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ABSTRACT: Talisadya churna was prepared by pounding the individual ingredients in mortar and pestle and mixie. The Curna prepared by pounding the ingredients in mortar and pestle showed higher exhaustive extraction in hexane and solubility in alcohol. The Curna prepared by grinding the ingredients in mixie showed less acid insoluble content, high volatile matter, water soluble matter, and exhaustive extraction in chloroform. Thin layer silica gel chromatography and test of organic functional groups did not show any difference in the Tulisadya curna prepared by either method.

INTRODUCTION

Talisadya curna is one of the drugs of **curna** group of ayurvedic system of medicine. It is a compound medicine consisting eight ingredients (Anonymous 1978). The textual method of preparation consists of powdering of the individual ingredients in mortar and pestle and combining the powders in specified proportions. But its preparation on industrial scale involves the powdering of all ingredients together in a disintegrator.

Talisadya curna was prepared as per the textual method and by powdering the individual ingredients in a mixie. The **curna** prepared in mortar and pestle and in mixie were analysed and compared for ash content, acid insoluble ash, iron content, sugar, volatile matter, exhaustive extraction in organic solvents, solubility in water and alcohol.

The raw drugs of **Talisadya curna** were drawn from local raw drug trade and botanically identified.

Preparation of Taiisadya curna

- 1. Mortar and Pestle: Individual ingredients were powdered in mortar and pestle made of iron and were sieved through an eighty mesh sieve. These drug powders were mixed in the proportions mentioned in the Ayurvedic Formulary (Anonymous 1978).
- 2. Mixie: The ingredients of **Talisadya curna** were powdered individually in mixie and mixed in the quantity as indicated in formulary (Anonymous 1978) after sieving through an eight mesh sieve.

MATERIALS AND METHODS

Analytical Methods:

Ash, acid insoluble ash, solubility of ash in water, exhaustive extraction in organic solvents, solubility in water and alcohol and sugar were determined (Horwitz, 1980). Iron was estimated as per procedure detailed by Vogel (1961). Organic functional groups were tested according to the procedure given by Bentley (1963).

Chromatography

Talisadya curna prepared by either method (5 g) was extracted in 10 ml of hexane, benzene, chloroform and alcohol separately. Thin layer silica gel chromatography was carried out by applying 10 ml of each extract in the following solvents.

- 1. Benzene : Ethylacetate : : 4 : 1
- 2. Benzene : Ethylacetate :: 6 : 1

The chromatogram were developed in iodine vapours and by spraying sulphuric acid – water (1:1). The plates after spraying with sulphuric acid were kept in hot air oven at 110C for 10 minutes.

RESULTS

The analytical values of Talisadya curna prepared by either method are summarized in Table 1. Ash and acid insoluble ash contents 10.37% and 8.56% were respectively in the curna prepared in mortar and pestle compared to 10.23% and 8.29% prepared in mixie. The water soluble ash and alkalinity of the solution and volatile contents were more in mixie prepared curna compared to curna prepared in mortar and pestle. Iron and sugars did not show any difference in either type of preparations.

Exhaustive extraction in hexane was better in mortar and pestle prepared **curna** compared to mixie – prepared **curna**, where as chloroform exhaustive extraction in mixie prepared **curna** was more than mortar and pestle **curna**. Solubility in alcohol was higher in the **curna** prepared by powdering drugs in mortar and pestle while water solubility was more in the **curna** prepared by powdering the drugs in mixie.

Parameter	Mortar and Pestle %	Mixie %
Ash	10.37	10.23
Water soluble ash	1.27	1.33
Acid insoluble ash	8.56	8.29
Iron	0.02	0.02
Sugar	66.17	66.21
Volatile matter	7.57	8.41

TABLE 1

Analytical values of Talisadya curna prepared by two different methods

Solubility in (i) Alcohol (ii) Water	34.30 77.80	31.94 80.11
Exhaustive Extraction		
(i) Hexane(ii) Benzene(iii) Chloroform	2.96 3.23 2.33	2.12 3.24 2.75

There was no difference in tested organic functional groups in either type of preparations (Table 2). Silica gel thin layer chromatography showed good resolution of spots in the solvent system benzene-ethyl acetate (6:1). Hexane and benzene-showed eight spots in either type of preparation with comparable corresponding Rf values. The spots turned brown with iodine and black with sulphuric acid reagents. Chloroform extract resolved into ten spots while alcohol extract showed eight spots in either type of preparations. The colour of the spots with iodine vapours were brown but black with sulphuric acid (Table 3).

TABLE 2

Screening of Organic compound functional group in Talisadya curna prepared by two different methods

Functional	Hex	ane	Benz	Benzene		Chloroform		Alcohol	
Group	Mortar	Mixie	Mortar	Mixie	Mortar	Mixie	Mortar	Mixie	
	&		&		&		&		
	Pestle		Pestle		Pestle		Pestle		
Steroid	-	-	-	-	+	+	-	-	
Triterpene	+	+	+	+	+	+	+	+	
Sugar	-	-	-	-	-	-	+	+	
Alkaloid	+	+	+	+	+	+	+	+	
Phenol	-	-	+	+	-	-	-	-	
Flavanoid	-	-	-	-	+	+	+	+	
Acid	+	+	+	+	-	-	-	-	
Quinone	+	+	+	+	+	+	+	+	

Saponin	-	-	-	-	-	-	-	-
Furan	+	+	+	+	+	+	+	+
Tanin	-	-	+	+	-	-	+	+

- = Absent + = Present

TABLE 3

Thin Layer chromatography Rf values of Talisadya curna prepared by two different methods and extracted in hexane, benzene, chloroform and alcohol

Solvent System	Rf value						
	Hexane	Benzene	Chloroform	Alcohol			
	-	_	0.16	0.16			
	-	-	0.20	-			
	0.26	0.26	0.26	0.26			
	-	-	-	0.28			
	-	-	0.31	0.31			
Benzene : Ethylacetate $(6 \cdot 1)$	0.36	0.36	0.36	0.36			
Benzene . Euryracetate (0 . 1)	0.41	0.41	0.41	0.41			
	0.48	0.48	0.48	0.48			
	0.51	0.51	0.51	0.51			
	0.61	0.61	-	-			
	0.68	0.68	0.68	-			
	0.82	0.82	0.82	-			

DISCUSSION:

The high ash content in Talisadya curna was due to Vamsalocana (Bambusa bambos Druce), which is siliceous in nature. The higher ash content and acid insoluble ash in mortar and pestle prepared curna may be due to the lesser extent of continuation of Vamsalocana where as it was comminuted to a greater extent in the mixie and the loss of silica material during sieving and powdering. Although individual ingredients were weighed and mixed after powdering, due to loss of silica in mixie powdered drugs lower value of ash was observed in the curna, as compared to mortar and pestle prepared curna. This was further supported by acid insoluble and water soluble ash observed either values in type of The low volatile matter preparation. observed in mortar and pestle prepared curna may be due to its partial loss during grinding of the ingredients. There was more alcohol soluble and less water soluble matter in mortar and pestle prepared curna compared to mixie prepared curna. Silca gel thin layer chromatography and organic compounds functional groups test did not show any difference in either type of preparation. Chromatrographic observations were in agreement with our earlier findings on Amalakyadi curna but exhaustive extraction inorganic solvents and solubility in water and alcohol was good in Amlakvadi curna prepared by grinding the ingredients in mortar and pestle (Alam et al 1989).

CONCLUSION

Talisadya curna prepared by grinding ingredients in mortar and pestle showed better results with respect to exhaustive extraction in chloroform and solubility in Acid and water soluble ash, alcohol. volatile matter and solubility of curna in water were good in the Talisadya curna prepared by grinding the drugs in mixie. But in general the two methods of preparation did not show any marked differences. There was also no difference in the organic compounds and in TLC pattern there by indicating that active principles did not undergo any change in mixie prepared curna. This study suggests that Talisadya **curna** can be prepared either by grinding the ingredients in mixie or mortar and pestle.

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