

## Development of Standard Manufacturing Process of *Joshanda*

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### ABSTRACT

*Unani System of Medicine (USM) has many safe and effective single drugs as well as compound formulations, which are commonly used in four forms solid (Hab, Qurs, Safoof, Kushta etc.); semisolid (Majoon, Laooq, Marham/Zamad etc.); liquid (Joshanda, Sharbat, Sheera, Rooh, Tila etc.) and gaseous (Bakhoor, Inkabab, Shamoom etc.). Joshanda, a preparation, in which Unani crude drugs are frequently used for treatment of common cold, catarrh, cough, associated respiratory distress and fever etc. Different Joshande are available in various Qarabadeen. In this paper a comprehensive summary has been made about various Joshande, about the drug and water ratio, yield of Joshanda and therapeutic uses of various Joshande, which is mentioned in different reference books of Unani System of Medicine. Documented evidence regarding their standard procedures of preparation/process standardization is meagre. Some important points are not specifically given, in the case of preparation of Joshandai.e quantity of heat and duration of heat. Therefore in the present study, apart from literature survey, one experimental study was also done by preparing different batches of Joshanda in different volumes (one litre, five litres and ten litres) at specific temperatures and observed the duration of heating and net volume of product left was also observed after giving suitable temperature.*

**Keywords:** Unani System of Medicine (USM), Standard Manufacturing Process (SMP), Joshanda, Decoction.

### INTRODUCTION

*Joshanda* (decoction) is a Persian word derived from *Joshanidan* (boiling) and *Andah* (prepared by) meaning thereby “prepared by boiling”. In Unani system of Medicine (USM) crude drugs are frequently used in this form,

which is their aqueous extract, containing water soluble principles and inorganic ions. It is basically homogenous and pure fresh syrup. It is obtaining after boiling the drugs in water in the ratio of 1:3 or 1:5, (AYUSH, 2011) or in the ratio of 1:6 or 1:8 (Kabeer, 2003).

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It is also indicated that boiling is stopped, when the water remains half or one third (Kabeer, 2003). It is also called *Matbookh* or *Tabeeekh*, which means cooked. Many roots and barks, stems and flowers etc are boiled for prescribed time, before their active principles are extracted. It is recommended to use stainless steel, glass or porcelain vessels to make decoctions. In USM it is mostly used for the treatment of common cold, catarrh, influenza, cough, associated respiratory distress and fevers. Examples of *Joshanda* which is commonly used in USM: *Joshanda Nazla*, *Joshanda Humma*, *Joshanda MusaffiKhoon*, *Joshanda Zeequnnafas*, *Joshanda Munzij*, *Joshanda Mushil*, *Joshanda Aftimoon*, *Joshanda Sual*, *Joshanda Mulayyin*, *Joshanda Ustukhudoos*, *Joshanda Zoofa*, *Joshanda Hindi*, *Joshanda Afsanteen*, *Joshanda Tabkheer* etc. This dosage form either used itself as a dosage form or prepared for the preparation of *Sharbat*, *Khameera* etc.

Preparation of *Joshanda* is little bit complicated procedure, because the preparation method is not mentioned specifically in any *Qarabadeen*, i.e. quantity of heat and duration of heat, Patients may use the *Joshanada* after boiling at different intervals (5 minutes, 10 minutes and 15 minutes). Therefore it is mandatory to develop a standard procedure of preparation of *Joshanda*.

In view of the importance of the preparation of *Joshanda*, Standard manufacturing procedure (SMP) of *Joshanda* was developed by taking *Aloobaloo* as an example.

## MATERIALS AND METHODS

### General methodology of preparation of *Joshanda*:

All the crude drugs clean thoroughly and the crush. After cleaning the drugs, soaking in water with the ratio of 1:3, 1:4, 1:5, 1:6, 1:8 in stainless steel pot for a while or sometimes for the overnight. In the morning boil on stove, till the water quantity remains become one third in

respects of initial, thereafter it is filtered through a sieve or muslin cloth properly. (AYUSH, 2011, Kabeer, 2003).

**Development of Standard manufacturing process (SMP) of *Joshanda*:** The SMP of *Joshanda* in different quantity of drugs and water was set and duration of preparation of *Joshanda* was observed. Moreover, volume of *Joshanda* obtained was also estimated. Drugs were thoroughly cleaned and crushed before soaking in the water. Although ratio of drugs and water (1:3, 1:4, 1:5, 1:6, 1:8) is recommended in books, but in this work only 1:4 ratio was used as recommended in the specific *Nuskha* of *Sharbat Aloobaloo* (AYUSH, 2011). Low flame was used. The external temperature was monitored regularly. The time was also monitored regularly (Duration of total heating). The net yield product was also estimated and noted. Stainless steel pots were used in the preparation. *Joshanda* always used as a fresh product. So there is no need of preservatives (AYUSH, 2011).

### Preparation of *JoshandaAloobaloo*:

The ingredients of *Joshanda Aloobaloo* are mentioned in Table-1 (AYUSH, 2006, Kabeeruddin, 2010, Khan, 1996, Said, 1997).

### Procurement and identification of raw drug:

The ingredient mentioned in the table above, were bought from the market of Bengaluru. It was identified by Botanist S. Noorunnisa Begum, Senior Assistant Professor, Centre for Repository of Medicinal Resources (C-RMR), Trans Disciplinary University (TDU), Bengaluru. The specimen was preserved in the Repository of Medical Resources Herbarium and the Accession number is *Aalubaalu* - 3819.

### Formulation of different batches of *Joshanda Aloobaloo*:

Different batches of *JoshandaAloobaloo* were prepared by taking *Aloobaloo* and water as mentioned in *BayazKabeer*, *Al Qarabadeen*, *Qarabadeen Azam* and with following two variables: By changing the quantity of drug

and by changing the quantity of water. Total nine batches were prepared in three different volumes viz one litre, five litres and ten litres by using above mentioned variables (Table 2).

## OBSERVATIONS AND RESULTS

### Assessment of preparation of *Joshanda*:

SMP of *Joshanda* in the ratio of drug and water (1:4) was set. One part drug was taken and soaked in four parts water for overnight in the stainless steel pot. In the morning boil on small burner gas stove at moderate temperature, till the volume of water became half. Different quantity of drug and water was taken, so in different quantities, manufacturing process was set as following (Table 2):

### Preparation methodology fixed for different batches of *Joshanda*

#### 1. SMP of *Joshanda* of one litre at MT-SB (Moderate temperature on small burner {570-580 °C}) in the ratio of 1:4 (drug and water):

- 250gm fruits of *Aloobaloo* were taken and soaked it in 1000ml of water for overnight in the stainless steel pot.
- In the morning boiled at MT-SB, till the pulp softens and the volume of water became half. The volume became half after approximately 25 min of heating.
- They are then cloth-filtered thoroughly

Three batches were prepared by using above mentioned procedure.

#### 2. SMP of *Joshanda* of five litres at MT-SB (Moderate temperature on small burner {570-580 °C}) in the ratio of 1:4 (drug and water):

- 1250gm fruits of *Aloobaloo* were taken and soaked it in 5000ml of water for overnight in the stainless steel pot.
- In the morning boiled at MT-SB, till the pulp softens and the volume of water became half. The volume became half after approximately 90 min of heating.
- They are then cloth-filtered thoroughly.

Three batches were prepared by using above mentioned procedure.

#### 3. SMP of *Joshanda* of ten litres at MT-SB (Moderate temperature on small burner {570-580 °C}) in the ratio of 1:4 (drug and water):

- 2500gm fruits of *Aloobaloo* were taken and soaked it in 10000ml of water for overnight in the stainless steel pot.
- In the morning boiled at MT-SB, till the pulp softens and the volume of water became half. The volume became half after approximately 135 min of heating.
- They are then cloth-filtered thoroughly.

Three batches were prepared by using above mentioned procedure.

## DISCUSSION

The manufacturing process of preparation of *Joshanda* was set, as it is not available in the literature. Different batches (nine) were prepared at same temperature MT-SB by taking varying quantity of drugs. Drug and water ratio was kept same (1:4) in all the batches.

Duration of preparation of *Joshanda* was observed at a given temperature. Heating was given, till the volume reduced to half, if 1000 ml of water was taken in 250gm of drug (drug and water: 1:4) then heat was given till the volume became 500 ml. Durations of heating/preparation time of various *Joshanda* were found to be 25 minutes in 250 gram of drug and 1000 ml of water, 90 minutes in 1250 gm of drugs and 5000 ml of water and 135 minutes in 2500 gm of drugs and 10000 ml of water.

Ratio of drug and water (1:4) was taken as it is mentioned in the *Bayaz Kabeer* (Kabeeruddin, 2010). During literature survey of various *Ashriba*, it is clear that in most of the preparation of *Ashriba*, drug and water ratio is 1:4. (Hafeez, 2005, Khan, 2006). However in some books, drug and water ratio is differ as 1:2, 1:3, 1:7 etc. But as 1:4 ratio is recommended in most of the cases, so the above mentioned methodology may be taken as a standard, wherever the same drug and water ratio 1:4 is given.

**Table 1: Ingredients of *Joshanda Aloobaloo***

S.No.	Unani name	Scientific name	Part used	Quantity
1.	<i>Aloobaloo</i>	<i>Prunuscerasus</i>	fruits	1part
2.	Water	-----	-----	4parts

**Table 2: *Joshanda* preparation for different batches**

<i>Joshanda</i> preparation for different batches of one litre						
Batch No.	Drug(D) (in gm)	Water(W) (in ml)	D & W ratio	Temperature (°C)	Duration (in min)	<i>Joshanda</i> obtained (ml)
1.	250	1000	1:4	MT-SB	25	500
2.	250	1000	1:4	MT-SB	25	500
3.	250	1000	1:4	MT-SB	25	500
<i>Joshanda</i> preparation for different batches of five litre						
4.	1250	5000	1:4	MT-SB	90	2500
5.	1250	5000	1:4	MT-SB	90	2500
6.	1250	5000	1:4	MT-SB	90	2500
<i>Joshanda</i> preparation for different batches of ten litre						
7.	2500	10000	1:4	MT-SB	135	5000
8.	2500	10000	1:4	MT-SB	135	5000
9.	2500	10000	1:4	MT-SB	135	5000

MT-SB = Moderate temperature on small burner (570-580 °C)

**Table 3: List of different *Joshanda* mentioned in different books**

Name of the <i>Joshanda</i>	Drug (gm)	Water (ml)	D&W ratio	Yield of <i>Joshanda</i>	Therapeutic use
<i>JoshandaAfsanteen</i> (Khan,1996)	50	500	1:10	1/2	Ascites
<i>JoshandaAfsanteen</i> (Kabeeruddin, YNM)	50	500	1:10	1/2	
<i>Joshanda Hindi</i> (Khan,1996)	50	500	1:10	1/4	Osteoarthritis
<i>Joshanda Hindi</i> (Kabeeruddin, YNM)	50	500	1:10	1/4	
<i>JoshandaKammusra</i> (Khan,1996)	250	1000	1:4	1/4	Palpitation
<i>JoshandaKammusra</i> (Kabeeruddin, YNM)	250	1000	1:4	1/4	
<i>JoshandaQurtum</i> (Khan,1996)	40	200	1:5	1/4	Emmenagogue
<i>JoshandaQurtum</i> (Kabeeruddin, YNM)	40	200	1:5	1/4	
<i>Joshanda Sana</i> (Khan,1996)	300	1500	1:5	1/3	Uterine cancer
<i>Joshanda Sana</i> (Kabeeruddin, YNM)	420	1260	1:3	1/3	Uterine cancer
<i>JoshandaQanturiyun</i> (Khan,1996)	115	520	1:5	1/3	Cataract
<i>JoshandaAnardana</i> (Khan,1996)	60	420	1:7	1/3	Vomiting, Stomachic
<i>JoshandaHaiza</i> (Khan,1996)	200	2000	1:10	1/2	Diarrhoea
<i>JoshandaAnjeer</i> (Khan,1996)	155	310	1:2	1/4	Emmenagogue
<i>JoshandaSibr</i>	380	3000	1:8	1/4	Chronic headache

(Kabeeruddin, YNM)					
<i>JoshandaMushil</i> (Kabeeruddin, YNM)	50	500	1:10	1/4	Epilepsy
<i>JoshandaUstkhudoosMushil</i> (Kabeeruddin, YNM)	340	1000	1:3	1/2	Diseases of brain and eye
<i>JoshandaUstkhudoosMunziji</i> (Kabeeruddin, YNM)	80	500	1:6	1/2	Concoctive
<i>JoshandaZoofa</i> (Kabeeruddin, YNM)	200	1500	1:7	1/4	Palpitation
<i>JoshandaNakhala</i> (Kabeeruddin, YNM)	50	375	1:7	1/3	Chronic cough
<i>JoshandaKibr</i> (Kabeeruddin, YNM)	250	1000	1:4	1/2	Phlegmatic fever
<i>JoshandaGafis</i> (Kabeeruddin, YNM)	250	2500	1:10	1/3	Phlegmatic fever
<i>JoshandaHaftroza</i> (Kabeeruddin, YNM)	600	3000	1:5	1/4	Stomatitis

### CONCLUSION

The procedure used to prepare the *Joshanda* in the ratio of 1:4 (drug and water) i.e. for example 250gm of drug and 1000ml of water may be taken as SMP of *Joshanda*. Different quantities of drug were taken to prepare a *Joshanda*, so standard manufacturing process for different quantities in the same ratio of 1:4 (drug and water), were set which may be taken standard for future reference. In this paper a comprehensive review has also been done to summarise all important points regarding *Joshanda* i.e drug and water ratio and yield of *Joshanda* (Table-3). Data has been collected from the important reference books of USM and hence may be used as a reference paper for the preparation of the different *Joshande*.

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