

The Mughal medicine workshop (*Aushadhkhana*) at Amber

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The Mughalkarkhana at Amber aimed to design goods of variegated art and craft, serving the purpose of utility and luxury. Such masterpieces and marvels adorn various museums. Interestingly enough *karkhanas* undertook production of medicine also. However, this *karkhana* has escaped the attention of AbulFazl in his *Ain i Akbari*. It is therefore our good fortune that we have rich profusion of elaborate information forthcoming from *aushadhkhana* document preserved in Rajasthan State Archives, Bikaner (RSAB). The documents show that it served imperial usage (*sharfpadshahi*) at a time when Unani and European medicine were available to them. *Jamakharch Aushadhkhana* documents are annual ledgers of income and expenditure incurred on Mughal medicine workshop operational at Amber. In these documents, micro level statistical data is available on wage structure, raw material, apparatus, equipment, herbs procured in bulk. The information can be substantiated from *pothikhana* (library) documents which supply information on ayurvedic medicinal texts preserved in City palace Museum, Jaipur. *Arzdasht* inform us about ailments of royalty.ⁱ *Dastur Komwar* records provide information on conferment of honour on *vaidya* (medical practitioners).

Aushadhkhana has to be viewed as not only a workshop but a dispensary where ailments were reported and medicine designed accordingly. Drugs were preserved carefully, recorded with clearly classified varieties e.g. plants and their products. Meticulous care was taken to keep the texture and aroma intact.ⁱⁱ

The present study intends to explore the use of *Ayurvedic* medical tradition, the nature of remedies prepared for the ailment of Mughal Emperor. The investigation is carried on the basis on *Aushadhkhana* and *pothikhana* documents preserved in RSAB.ⁱⁱⁱ These documents supply intricate details of weight and measures of herbs and the prices thereof.

Ayurveda can be understood as a science of health and healing. The principles of *Ayurveda* are based on the Hindu scriptures namely *vedas*. *Atharveda* is the fountainhead of ancient medical therapies. Ancient sages compiled ayurvedic texts to elucidate this field, the more famous ones are *Susrutasamhita* and *Charaksamhita*.

Charak has given a good description of drug store. He says “after the collection of drug should be kept in suitable and good containers and stored in a room facing east ward and north ward, devoid of wind but well ventilated, daily ritualised with offering of flowers etc.—making them unapproachable from fire, water, humidity, smoke, dust, rats, etc.”^{iv}

Susruta says that drug store should be in clean surrounding and auspicious direction and the drug should be placed in cloth bag, earthen jars, wooden planks and hooks. Physician himself acted as pharmacist. He used to prepare medicine in separate portion. The premises were filled by aroma of decoction, etc.”^v

Diseases

Ayurveda believes diseases are caused by imbalance of the elements of body. The health complains of Mughal Emperors were lifestyle problems such as fever and skin ailments due to their being exposed to harsh weather conditions in times of war expeditions and imperial marches. The lavish food intake resulted in indigestion complains. The most common health problem was related to skin. Let us now peruse the nature of diseases that were reported by royalty and the medical advice given.

The reported diseases of royalty are varied in nature ranging from fever, indigestion, urinary tract disorder, skin diseases etc. The medicines prescribed are in the form of *arq*, *goli*, *vati*, *tel*, and *churan*.^{vi} *Arq* is an *ayurvedic* preparation obtained by process of distillation. Special apparatus is needed for distillation. *Churan* is powdered in form of drug. It is both in coarse and fine quality. While *goli* and *vati* serve the purpose of tablet. *Tel* was oil formulated with herbs.^{vii}

The above description would be clear by a discussion of the reported diseases and the prescribed medicine.

Medicines

Aushadhisukta of *Rigved* is the ancient repository of knowledge of medicinal plants. This text classified the flowering and fruiting of medicinal plants, and explained their morphology and its reaction.^{viii} So far as the nomenclature was concerned, the medicinal formulation followed various principles. A scrutiny of the documents reveals sometimes the principle of naming the drug was after the main drug e.g. *chitrakadivati* at other times the formulation is named after disease like *Daadka tel*.^{ix} Such examples can be multiplied.

Compound formulation of medicines

The medicine formulated was bundled with various compounds. An analysis of ingredients would reveal that the compound formulation of the medicine generally consisted of following components:

1. Main drug
2. Adjuvants or synergistics
3. Corrective or balancing
4. Vehicle

Digestive problem

In order to explain this problem one may bear in mind that digestive problem is a group of health condition manifested in loss of appetite, bloating, indigestion, gas formation constipation or diarrhoea. Some of these conditions occur due to malfunctioning of spleen, liver others occur due to problems in stomach.

The *aushadkhana* records prescribed for indigestion the medicine named *chitrkadivati*. Fortunately our record shows itemised list of its main ingredients that include *chitrak*, *pipli*, *mulethi*, *anwla*, *doda*, *banslochan*, etc.^x A scrutiny of the herbs one can glean that most of the ingredients are digestive stimulant which improve digestive power some are herbs like *chitrak* others are mineral like *shilajeet* still others are liquid like cow milk which act as solvent for dissolving its content.

Medicine for Indigestion (*Aushadhchatrkadivati*)

Items mentioned in documents (Local names)	Name -Botanical/ Zoological (Present day terminology)	Usage/ Purpose
<i>Pipli</i>	Long pepper fruit, <i>piper longum</i>	Indigestion, asthma, cough, spleen-related disorders
<i>Anwla</i> (fruit)	<i>Emblicaofficinalis</i> Indian gooseberry	Digestive
<i>Mulethi</i>	<i>Glycyrrhizaglabra</i> (Liquorice)	Condiment, constipation, acidity, laxative effect
<i>Dalchini</i>	Cinnamon bark	Indigestion dyspepsia
<i>Chokhchuni</i>	China root plant, root/ rhizome used	Swelling, psoriasis, syphilis, leprosy

Skin disease

Our documents use the general term of *daad* term to indicate skin disorder.^{xi} Oils are effective as preventive and curative medicine. Among skin diseases ringworm, insect bite and psoriasis have been mentioned in our records.

Daad effect initially starts as red patches and later spreads to other parts. The infection is prone to skin area of scalp, feet, groin and beard. *Dadru* or ringworm a term used to describe contagious infection of the skin by fungus, because the manifestations are circular red patches. There is severe itching sensation over effected parts. Medicine for *daadis* in shape of oil for ringworm (*daadkatel*). This liquid formulation contains mustard oil as base in which several herbs such as haladtak, darhalad, gugal, sunthi are mixed with chemical as heerakasees and gandak, rassindoor to form this medicated oil.^{xii} This oil has anti parasitic, anti bacterial, anti inflammatory effect.

Medicine for Ringworm(*DaadkiAushadh*)

Item used in documents	Name Botanical/ Zoological (present terminology)	Usage/ Purpose
<i>Majuphal/</i> magic nut	<i>Quercusinfactoria</i> (gall oak)	To control bleeding
<i>Suhaga/ tankan bhasm</i>	Borax (chemical)	Anti-inflammatory, Anti- microbial skin diseases
<i>Danda</i>	<i>Euphorbiaroyleana</i> (castor family)	Therapeutic interest Anti- leukemic properties
<i>Gandhak</i>	Processed sulphur, detoxified sulphur processed with herbal juice	Anti-bacterial, Anti-viral, Anti-microbial, broad spectrum, Anti-biotic

Psoriasis is chronic skin disease in which erythematous area are covered with adherent scale. Although condition may occur anywhere the characteristic sites are extensor surface especially knees and elbows. In psoriasis skin is often covered with silver scale scales and these patchy may be itchy and painful. The patches may occur on knees, elbows, scalp and sometimes on palm and soles of feet. This condition comes and goes in cycles of remissions, and flares up over a lifetime. There are different types of psoriasis, some are associated with arthritis, etc. Varieties of factors cause it ranging from emotional stress to infection.

Treatment for psoriasis is oral as per our record. It includes herbal juice. The ingredients for this herb include *chokhchuni*, *elaichi*, *dalchini*, *misri* etc. It was a broad spectrum medicine that worked for psoriasis as well as other skin ailments. It also improved stomach and liver capabilities and helped queering indigestion cough and other related conditions.

Syrup for Psoriasis(*AraqChokhchuni*)

Item mentioned in the documents(local name)	Name Botanical/ Zoological (present terminology)	Usage/ Purpose
<i>Chobchuni</i>	China root plant, root/ rhizome used	Swelling, pus, psoriasis, syphilis, leprosy
<i>Dalchini</i>	Cinnamon bark	Indigestion ,dyspepsia
<i>Dodabarhi</i>	Indian rennet	Indigestion, liver disease, anxiety,asthma
<i>Pipli</i>	Long pepper fruit, <i>piper longum</i>	Used as spice, used in indigestion, asthma, cough, spleen-related disorders
<i>Misri</i>	Rock sugar, sugar candy	Manufactured product
<i>Multani</i>	Fullers earth, rich in magnesium chloride	Healing property against skin diseases
<i>Kasturi</i>	Musk, dried secretion of naval of deer	Life saving drug cardiac, neurological disorder

Insect bite ranges from minor discomfort to strong and severe allergic reactions depending on insect. Most bites and stings cause minor discomfort but some encounters can be deadly as it is followed by allergic reaction as chemicals deposited into the skin. Most bites leave an itchy patch, redness and swelling at the site of bite and sting. If a person is sensitive it may induce an allergic reactions causing throat to tighten making breathing difficult some bites cause illness and disease as it transmits infectious agents. Insect bite has swelling pimple of pale black red colour.

Insect bite was treated by a formulated oil that head turmeric dissolved in mustard oil. This oil was applied at affected area using leaves of *madar* tree.^{xiii} The oil covered the wound and provided invisible bandage while turmeric caused healing action on the bite. The application served as an antiseptic treatment because of its inherent antiseptic effects.

Oil for Insect bite (*Dad ka Tel*)

Item mentioned in the documents(local names)	Name- Botanical/ Zoological(present terminology)	Usage/ Purpose
<i>Aakka Pan (arka pat)</i>	Madar tree, <i>calotropisgigantia</i> ,(leaf & bark ,milk were used)	Poison bites, wounds
<i>Halad</i>	Turmeric, <i>curcuma longa</i> (dried tuber)	Dermatosis, blood purifier, purgative, general tonic etc.
<i>Karvatel</i>	Mustard oil	Solvent

Urinary tract disorder

In *ayurvedic* texts the definition of *pramehas* is given as profuse and turbid urine. The entire anomalous of urine has been classified in various heads. Urinary tract disease is characterized by persistent urge to urinate. Cloudy or coloured urine occurs. This is usually accompanied by burning sensation.

The prescribed medicine for urinary tract disease is *Chandra prabhakigoli*. The contents include *sarvai*, *sheetalmirch*, *chitrak*, *shilajeet*, *pipli*, *saaj*, *gajpiplinisoth* and others^{xiv} which are anti bacterial, anti-parasitic, antiseptic used for treating uro genital, skin disorders. Some of these also effect digestive and respiratory system and hence maintain health and well being.

Table for Urinary Tract Disease (*ChandarPrabhakiGoli*)

Item mentioned in the documents (local names)	Name- Botanical/ Zoological(present day terminology)	Usage/ Purpose
<i>Sarvai</i>	<i>Hemidesmusindicus</i>	Urogenital and skin disorder
<i>MirchShital/ kankolkababchini</i>	<i>Piper cubeba</i> fruit	Stimulant, carminative
<i>Chat Rakh</i>	<i>Plumbagozeylanica</i> (Doctor Brush)	Anti parasitic Anti bacterial
<i>Pipli</i>	Long pepper fruit, <i>Piper longum</i>	Spice, indigestion, asthma, cough, spleen-related disorders
<i>Gajpipli</i>	<i>Scindapsusofficinalis</i>	Asthma, digestive, aphordisiac
<i>Nasoti/Nisot</i>	<i>Operculumturpethum</i>	Purgative

Conclusion

One can discern from above discussion that *aushadhkhanawas* important workshop to prepare drugs of specific and disease oriented medication. They were either liquid for application or oral remedy in the form of tablet or powder. The practitioners were aware of the fact that medicine contained bitter taste and hence they rendered it palatable by sweetness of *misri* and scented by musk. Preparation of drugs was possible by collecting plants inspecific time of year. The collection of twigs and leaves etc. had to be perfect in order to maintain smell, colour, and taste. Utmost care was taken for preparation as they were for imperial usage. Some of these proved so effective that they are popular even in present day *ayurvedic* medicine. Imperial patronage helped procurement of raw material from far and wide area. Necessary literature was also made available. The best medical practitioners were mentored and they were rewarded after completion of their tasks.^{xv} These practitioners handed over a rich legacy to the modern ageayurveda.

References

ⁱ See *Arzdashts*, Rajasthan State Archives, Bikaner, Also see my unpublished dissertation entitled 'Correspondence of Raja of Amber with Mughal Court: Calendar of Wakil Report' Aligarh Muslim University, 1986.

ⁱⁱ *JamaKharchAushadkhanadocuments* from *BhadvaSudi3*, VS 1774/AD 1717 to *BhadvaSudi2*, VS 1775/AD 1718.

ⁱⁱⁱ *Pothikhanadocuments* supply detail of books prepared for royalty. This collection includes books related to *Ayurveda*. See *jamakharchpothikhanadated* 1 *Safar* 1109/19 September 1698 to 20 *Rajab* 1111/11 January 1700, Rajasthan State Archives, Bikaner.

^{iv} *CharakSamhita* is a medical treatise. For details see PremVrat Sharma and Sharma, A.V., Pharmacy in Ancient India, in History of medicine in India, Indian National Science Academy, New Delhi, 1992.

^v *SusrutaSamhita* another medical treatise see Pharmacy in Ancient India op.cit.

^{vi} *Aushadkhanadocuments* op.cit.

^{vii} These medicines are recommended and available in modern times also.

^{viii} *AushadhiSukta*, *Rigveda*(10.97.1_23) Pharmacology: Origin and Development, History of Medicine op.cit.

^{ix} *Aushadkhanadocuments* op.cit.

^x *Aushadkhanadocuments* op.cit.

^{xi} *Ibid*

^{xii} *Ibid*.

^{xiii} *Ibid*

^{xiv} *Ibid*.

^{xv} *DasturKomwarR.S.A*. Bikaner.