Review Article

Exclusivity of the Bower Manuscript- *Naavaneetakam*

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ABSTRACT

Literature research is of much importance in Ayurveda as Ayurveda fraternity accepts the information depicted in the original and ancient Ayurveda Sanskrit Texts. Research of Ayurveda literature is not confined to Ayurvedic Samhitas only but is extended to allied literature including Manuscript studies. *Naavaneetakam* is a part of the Bower Manuscript (BMS) - one of the oldest birch bark manuscript and is unique in many respects. It is a compendium of prescriptions for various diseases. The manuscript contents some attention-grabbing information regarding various formulae which includes different indications, unusual etiology of some conditions and unfamiliar names of a few diseases. Such atypical information along with brief information of the BMS is explored to Ayurveda fraternity through this article. All these exclusivities of the BMS have potential to provide the nucleus for applied research.

Key words : Bower Manuscript, Ayurveda , Ancient Literature

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Introduction

Literature research is of much importance in Ayurveda as Ayurveda fraternity accepts the information depicted in the original and ancient Ayurveda Sanskrit Texts. Research of Ayurveda literature is not confined to Ayurvedic Samhitas only but is extended to allied literature including Manuscript studies. *Naavaneetakam* is a part of the Bower Manuscript (BMS) - one of the oldest birch bark manuscript and is unique in many respects. It is a compendium of prescriptions for various diseases. This compilation style is quite strange to the then Ayurvedic literature. The BMS was found in three parts. The second part namely *Naavaneetakam* contents some attention-grabbing information regarding various formulae which includes different indications, unusual etiology of some conditions and unfamiliar names of a few diseases. Such atypical information along with brief information of the BMS is explored to Ayurveda fraternity through this article.

Brief Information about the BMS

The Discovery [1]

The BMS was found in 1890 at *Kuchar* which is one of the principle oases of settlements of eastern Turkestan on the great caravan route to China. The exact place where the manuscript was found is a '*Stupa*' close to the *Ming-oi of Qum-Tura*, about 13 to 16 miles away from *Kuchar*. The two treasure-hunters found it there and sold the same to Col. H. BOWER C.B., who had gone there on a confidential mission from the then Govt. of India. He then forwarded the manuscript to the Asiatic Society of Bengal from where Dr. A. F. RUDOLF HOERNLE had studied it deeply. At present it is in the Bodleian Library, Oxford, England. This is the only one copy of the Bower Manuscript available on the globe.

Names of the Manuscript [2]

1. The Bower Manuscript: The manuscript did not bear any name (except the name *Naavaneetakam* for part II), when it was found. So it was named

after Col. H. BOWER C.B, who brought it to light.

2. *Naavaneetakam*: The author of the 2nd part of the manuscript himself had given this name to that particular part. *Navaneeta* is butter, *Naavaneeta* is ghee = *Ghrita* derived from butter & is the ultimate product of the milk. *Naavaneetaka* is the same as *Naavaneeta*. Thus, the name signifies that this text is 'essence of the particular subject (of discussion)'.

3. *Siddha Samkarsha*: This name to part II of the manuscript had been given by the author himself. *Siddha* is one who has attained the highest object [3]. In the word *Samkarsha*, the root is '*sam* + *Krish'* meaning 'to draw together'. The name '*Siddha Samkarsha'*, therefore, denotes that the material in the text is a collection of formulae from various medical authorities - *Siddhas*. Dr. Hoernle who studied the manuscript very first, understands that the title means 'exactly approved (prescriptions)'.

It is more suitable to say that *Siddha Samkarsha* is the name of the text and *Naavaneetaka* is its adjective denoting the major characteristic of the text.

Chronological position of BMS in Ayurveda literature

With deep archaeological studies Dr. Hoernle had arrived at the conclusion that the production of the whole of BMS must be referred to the third quarter of the fourth century AD and the date of the autograph of the BMS is placed as second century BC[4]. Ayurvedic literature is divided into 2 major groups –i) the ancient *Samhitas* (original texts) viz. the *Samhitas* of *Charaka, Sushruta, Bhela, Harita* etc. presumably compiled or composed from 1000 BC TO 200 AD. and ii) the later Ayurvedic *Samhitas (by Vaagbhata, Shaarangdhara, Bhaavamishra* etc.) composed approximately from 200 AD to 1000 AD onwards. The BMS possesses an intermediate position between these two groups. In this connection, Jolly says[5] – "The great importance of the Bower Manuscript in the history of medicine lies in the fact that it has proved the existence of the Indian medicine already in the 4th -5th century AD and thereby has removed all doubts about the faithfulness of the Arabic accounts."

Topics covered in the BMS [6]

The entire matter of the BMS can be classified in two categories namely Medical and Non-medical. The Medical part includes description of etiology of some diseases, so many drug-formulations, Single drug description in the form of '*Kalpa'*, weight and measurements; drug preparation methods and *Mahaamaayuri-vidya* (prescribed against snake-bite).There are also certain guidelines for healthy life. As mentioned earlier, the second part of the BMS namely *Naaavneetakam* contains chapters entirely related to medicine.

1. Drug Formulations in the BMS

A] Guidelines for drug preparation

Many of these guidelines found in the BMS are similar to those from *Charaka Samhita*. The following is an additional information[7] – 'where the quantity of honey and ghee is not specified in formula, both the substances should be taken two times of the quantity of the drug; jaggery should be taken three times and sugar four times. In case of curds, urine, milk, hair of skin, horns - these substances should be those of cow, unless otherwise stated'. Though this type of information occur in the later Ayurvedic *Samhitas*, s a *Shaarangdhara Samhita*, the extract in the Bower Manuscript is important from the chronological point of view.

B] Analysis of formulae

Dr. Hoernle has done a valuable work of comparing the formulae from the BMS with those from Ayurvedic *Samhitas. Charaka Samhita, Sushruta Samhita* and *Bhela Samhita* are the three main sources of the Bower Manuscript[8]. While the BMS mentions *Sushruta, Haarita, Bhela and Agnivesha*; it does not mentions *Charaka.* It may therefore be inferred that, in the case of

Charaka Samhita, its original *Samhita* composed by *Agnivesha* was possibly the source of the BMS and not the text redacted by *Charaka*. Anyhow, the BMS itself does not mention any of these *Samhitas* as a source of the formulae except '*Bheli Yavagu'*. With deep studies of the Manuscript and Ayurvedic *Samhitas*, Dr. Hoernle gave the number of the formulae taken from 3 *Samhitas* as follows[9] - 29 from *Charaka Samhita,* 06 from *Sushruta Samhita* and 11 from *Bhela Samhita*. Many of the remaining formulae from BMS are found in the later Ayurvedic *Samhitas* such as *Vangasena, Ashtaanga Hridayam, Ashtaanga Sangraha*. It can be said that BMS & these *Samhitas* might have some common Ayurvedic texts as their source.

Formulae form *Charaka Samhita* and the BMS: Among 29 similar formulae, following formulae of BMS are having different indications than *Charaka Samhita*: first name is from *Charaka Samhita(CS)* which is replaced by the name from BMS. **(Endnotes)**

Table 1. *Kalpa* comparison *(Charaka Samhita)*

Name of formula	Indication different than *Charaka Samhita*	
Taalisaadi Choorna	*Shoolaghna (CS),*	*Gulmaghna (BMS)*
Prastha Vireka	*Aanaaha (CS),*	*Utklesha (BMS)*
Mahaatiktaka Ghrita	*Asrugdara (CS) ,*	*Sadraja (BMS)*
	Amlapitta (CS) ,	*Raktapitta (BMS)*
	Jwara (CS) ,	*Krimi (BMS)*
Pippali Rasaayana	*Shopha (CS) ,*	*Gulma (BMS)*

Formulae form *Sushruta Samhita* and the BMS: Among 06 formulae, 3 are for *Aamaatisaara* and 3 are aphrodisiac. All these are almost similar to each other.

Formulae form *Bhela Samhita* and the BMS: Among 11similar formulae, following formulae of BMS are having different indications than *Bhela Samhita(BS)*

Table 2. *Kalpa* comparison *(Bhela Samhita)*

Name of formula	Indication different than *Bhela Samhita*	
Rasaayaneeya Sarpi	*Kshaya (BS),*	*Jwara (BMS)*
Dashaanga Ghrita	*Shwaasa (CS),*	*Hikkaa (BMS)*
Madhuyashtyaadi Tailam	*Paarshwashoola (BS) ,*	*Pitta Gulma (BMS)*
[Shatapaaka Sukumara Tailam(BS)]	*Asrigdara (BS),*	*Asadraja(BMS)*
	Mukhapaaka (BS),	*Pittapaaka(BMS)*
		*Jwara (*additionally in *BMS)*

Following formulae from the BMS show certain striking information -

Bheli Yavagu[10] : Some of the formulae from Bower Manuscript are attributed to or have been named after the authors of the *Samhitas*. Curiously enough, however, sometimes *Samhitas* do not necessarily possess the relevant formulae. e.g. a preparation of gruel is named as *Bheli Yavagu,* but it is not found in the text of *Bhela Samhita* available at present. In the opinion of Dr. Hoernle, some of the formulae are described by the author/s of Bower

Manuscript himself/themselves; while some seem to have come from the 'floating medical tradition.'

Sahachara Tailam [11]: Any Ayurvedic text prior to BMS does not mention this formula with such details as mentioned in the BMS. *Charaka Samhita* reports this just in two *Shlokas* [12]. The method of preparation given in *Bhela Samhita* and in the BMS is identical. *Bhela Samhita* does not mention all diseases as mentioned in the BMS. The use of this in BMS is mostly against *Vaatavyaadhi* (diseases due to vitiated *Vaata*) except the two - *Alaasaka* and *Ganda*— which are presumably *Alasaka or Balaasaka* and *Gandamaala or Galaganda*. Thus, the use of this is not confined only to *Vaatavyadhi*; but is used for *Kaphaja Vyaadhi* also. Properties of *'Sahachara'* mentioned in *Bhaavapraksha nighantu* [13] are supportive to this. *Alasaka* is a disease of alimentary canal in which the digestive power is weakened –probably due to excess or heavy food and *Balaasaka* is one of the 20 typical *(Naanaatmaja) Kaphaja vyaadhi*. Use of medicated oil is not appropriate in case of any type of indigestion. One meaning of *Balaasaka* is obesity [14] in which *Sahachara Tailam* can be used for massage, *Basti* as well as internally. The causative factors of *Gandamaala* and *Galaganda*[15] are *Vaata, Kapha,* and *Medas* against all, *Sahachara Tailam* is useful. Use of the same drug against *Bhootopahata-chittataa* (evil spirits) is rather curious.

C] *Kalpa* – In a '*Kalpa'* (pharmacological track) type of remedy, various uses and various ways of administration of one drug are mentioned. Among ancient *Samhitas*, only *Kashyapa Samhita* has mentioned such kind of pharmacological track of four drugs namely *Lasuna, Katutaila, Shataavari* and *Shatapushpaa*. The BMS also mentions four pharmacological tracks one on *Lasuna* and three on different drugs - *Hareetakee, Chitraka* and *Shilaajita.*

1. *Lasuna Kalpa* [16]: There is one noticeable different mention in the description of BMS compare to *Kashyapa Samhita*. BMS states *Lasuna* (Allivum sativum) as effective in *Asthigata Vaata* and *Kashyapa* mentions it effective in fracture and dislocation[17]**.** These two are different conditions. Symptoms of *Asthigata Vaata* are [18] - *Ushna Sparsha*, pain in bone –Osteopenia and comfort with pressure. It is likely to lead (physiological) fracture. Treatment of this condition with garlic can be said as a preventive measure for osteoporosis and fracture in future. In one animal study, low bone densities that developed in the overiectomized group were significantly recovered in the garlic oil supplemented group [19].

2. *Chitraka Kalpa* [20] – Three types of *Chitraka* (based on colour) are given with different therapeutic indices in the BMS. It is obvious from this description that all types were available by that time. At present all types of *Chitraka* are not easily available. Current research article on *Chitraka*[21] mentions that the red flowered *Chitraka* (Plumbago rosea) is available only in Sikkim. Blue coloured *Chitraka* (Plumbago capensis) is available only in some parts of Africa. There is no trace of yellow and black coloured *Chitraka* today. The black flowered *Chitraka* is described to be most potent species.

3 and 4. The description of *Hareetakee* (Terminalia chebulla) [22] and *Shilaajita* (bitumen).[23] are almost similar to their descriptions in *Bhaavaprakasha-nighantu* and *Charaka Samhita* respectively.

2. Unusual Etiology and Treatment Principle in the BMS

A] Why do women not get baldness (as frequently as men)? - As far as the Ayurvedic literature is concerned, there is no mention of the cause why women do not get baldness. The BMS is perhaps the only text where the reason is given. The manuscript gives the reason as follows [24] - generally, women are phlegmatic in nature….(also) menstrual fluid is discharged, so the base of hair is not affected by *Rakta & Pitta* vitiated by heat; hence, there is no loss of hair.

Here phlegmatic nature of women is somewhat controversial but the other reason is related to physiology of menstrual cycle and it carries point. In women, heat gets excreted through the menstrual discharge. Furthermore, *Streebeeja* is *Aagneya* in nature (i.e.

possessing maximum heat) and it gets expelled out of body along with menstrual fluid. Therefore; *Rakta* and *Pitta* do not get vitiated because of heat. Due to this heat excretion, hair roots do not lose their base. As a result, hairs do not fall. On the contrary, in males heat does not get excreted from the body and affects *Rakta* and *Pitta* which causes loosening of hair-roots and fall of hair takes place. Here, according to *Hetwartha Tantrayukti* [25]**,** it can be inferred that 'heat associated with *Rakta* and *Pitta'* should be taken into account while treating baldness in men.

Practically, baldness does not occur in females as frequently as it occurs in males. But there is no hard & fast rule that women do not have baldness. It is seen that some women face this problem of baldness at or after menopause. Considering this cause, one should take into account the status of menstrual cycle while treating the baldness in women. The research paper on FPHL (Female Pattern Hair Loss) also states [26] –'Although FPHL can occur at any time of life; the condition occurs the most following menopause.'

B] Treatment for *Vishamaagni* **-** Ayurveda gives higher consideration to *Agni* (digestive capacity) in treatment. Treatments for *Mandaagni* and *Teekshnaagni* are elaborately mentioned in *Samhitas* by *Charaka* and *Sushruta*. Specific Treatment for *Vishamaagni* can be said as a special feature of *Naavaneetakam*. It prescribes [27] *Hapushaadi Sarpi* and *Daadhika Sarpi* for *Vishamaagni* along with '*Vartayah'* and '*Snigdha-Ushna* diet'. These *Sarpi* (medicated ghee) are mentioned for *Vaataja Gulma* in *Charaka Samhita* [28] and *Sushruta Samhita* [29] respectively. *Vaata Dosha* is the only cause of *Vishamaagni* and main cause of *Gulma*, thus principally these *Sarpi* are effective on *Vishaamagni* (though there is no onset of *Gulma*).

Dr Hoernle reads *Bastayah* in place of *Vartayah* and says [30] -"irregular digestion is said to be due to deranged Air (Su Su 35) and for this, according to present Hindu medical practice, enemas are commonly used and not bougies". Dr. Hoernle's suggestion seems valid. Furthermore, the BMS considers *Vishamaagni* as a responsible factor for so many diseases stating '*Vishame Rogabaahulyam'* whereas *Charaka Samhita* considers *Mandaagni* as a cause of almost all diseases.

C] Paste for *Trishnaa*[31]**:** *Trishnaa* is excessive thirst. In the description of treatment for *Trishnaa*, *Ashtaanga Sangraha* reads –'in *Trishnaa*, those pastes etc. should be applied which are prescribed in the treatment of *Daaha* (burning sensation) and fever.' But it does not give any specific part of the body where the paste is to be applied. The manuscript prescribes the paste for *Trishnaa* and suggests 'head' as the body part for its application.

3. 'Unusual' disease-terms from the BMS

The BMS contains some peculiar or obscure terms for diseases or symptoms which are not found in any other Ayurvedic *Samhita*. They are discussed here:

A] *Mahaakshaya* [32]: *Kshaya* is a synonym of *Shosha* or *Raajayakshmaa*. Causative factors of *Raajayakshmaa* are [33] i. *Saahasa* (excessive physical exertion) ii. *Vegasandhaarana* (suppression of natural urges) iii. *Annapaana-vidhi-tyaaga* (violation of rules for food intake) and iv. *Dhaatukshaya*(decline in body tissues). Accordingly, *Raajayaksmaa* is classified into 4 types. From the context of the term *Mahaakshaya* in Bower Manuscript, it is clear that *Saptadhaatus* are declined in *Mahaakshaya* which are mainly affected. The adjective '*mahaa*' might have been given to indicate severity. Another thought can be given to the term *Mahaakshaya* as – it can be considered as advance stage of any of these types of *Yakshmaa* in which lastly there is severe *Dhaatukshaya* and the prognosis may not yield good prediction.

B] *Jalakaachata* [34]**:** This term is probably made up of two words *Jala* & *Kaachata* which indicate 2 different diseases of eye—-*Jalasraava* and *Kaacha*. The context of this term is also related to eye diseases.

C] Upagulma [35] **:-** *Gulma* resembles with tumor. The prefix *upa* has 2 meanings—i. near and ii. sub or small ; hence the term *Upagulma* may either be a small tumor or affected portion near to tumor.

D] *Avabhagna* [36]: - *Bhagna* is fracture and the prefix '*ava'* means downwards. Hence this term means fracture directed downwards. It can be said to be synonymous with *Avakshipta Bhagna* –one of the 8 types of fractures given in *Sushruta Samhita.*

E]*Sthitasuti-nari* [37]**:-** The verb *"Su* means to give birth. *Sthita* means stoppage. This term can be interpreted in 2 ways—1) a woman whose birth giving capacity is no longer exists. 2) if "*Su* indicates actual process of delivery of fetus , then *'sthitasuti'* means 'obstructed labour' .

F]*Raja-nigraha* [38]:- *Rajas* is menstrual fluid. *Nigraha* generally means deliberated obstruction. However the word should not be taken to mean –the deliberate obstruction in the case of menstrual discharge. Another meaning of *Nigraha* is stoppage. So the word means stoppage of menstrual discharge due to some changes in the body. (Grammatically, *Rajo-nigraha* is more correct word.)

F]*Sthitaartava-nari* [39]- The term *Aartav* is also used as a synonym to *Rajas*- the menstrual fluid. The word '*sthita*' is explained earlier. So, *Sthitaartava-nari* is a woman suffering from amenorrhea. Thus, the term carries the same meaning as *Raja-nigraha*. The Ayurvedic *Samhitas* give the term *Arajaskaa* for this specific disorder. In Ayurvedic *Samhitas* the term *Aartava* is also used for 'ovum (*Stree-beeja*)'. With this meaning of *Aartava*, the term is indicative of 'anovulatory menstrual cycle'.

Besides the terms discussed above, there remain a few more disease-related terms, the interpretation of which is quite difficult —for example- *Katrimaala*, *Aloona* .

All these exclusivities of the BMS have potential to provide the nucleus for applied research. Literary research is praised by stalwarts as [40] – 'the only component which may be claimed to be really successful and really useful and which has helped Ayurveda to become popular and to flourish in academia, is the literary research and literature development.' This literature based research article is a supportive illustration to the acclaim mentioned above.

Conclusions

The BMS - *Naavaneetakam* is a unique manuscript in many ways. Its availability with only one copy on globe makes it extraordinary in Ayurveda literature. Its chronological position also gives it precise importance in Ayurveda. Considering practical utility, following are the major exclusive contributions of BMS i)Explanation of less occurrence of baldness in women and emergence of treatment principle for baldness in males ii) Consideration of *Vishamaagni* as main cause of many diseases iii) Ready to use depiction of Daadhika sarpi and Hapusaadi Sarpi in *Vishamagni* condition, iv) Pharmacological tracks of four drugs and v) a few new therapeutic uses of formulae and Kalpas especially use of *Lasuna* against *Asthigata Vaata* (osteoporosis).

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