

## **GLIMPSES OF THE ADVANCEMENT OF MEDICAL SCIENCE AS DEPICTED IN THE MAHĀBHĀRATA.**

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### **ABSTRACT**

The Mahabharata of Vedavyasa is an encyclopaedic work, which has got some importance from the standpoint of Indian medical science also. According to it Ayurveda was a compulsory subject which was taught to everybody. Perhaps, Mahabharata is the first epic which presents the term Ayurveda. The fundamentals of Ayurveda are discussed in it very well. Circulations of blood described here reminds us the same of sushruta samhita. Three types of poisons and a number of metals and jewels have also been given in Mahabharata.

The Mahabharata of Vedavyasa is a well-renowned and encyclopaedic work. It is also one of the great epics of Sanskrit literature which is vividly glorified by its contents throughout the world. This great epic has got some importance from the standpoint of Indian Medical Science as the Greek epic entitled "Odyssey" of Homer bears in Greece and elsewhere.

This epic is divided into eighteen sections (parvans) and every parvan has been arranged in the chapters (adhyaya) which contains the verses

(shlokas). The whole epic is exhaustively studied from various points of view, Viz. history, culture, philosophy, religion, geography etc., but no attention has been, so far paid by the scholars and research workers to reveal the material of this great epic from the angle of Medical Science. Consequently, the present attempt has been made to fulfil the long-awaited need.

### **Ayurveda**

Ayurveda<sup>1</sup> was a compulsory subject which was taught to everybody. In classical Sanskrit litera-

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1. MBH., XII. 28.45

ture, the Mahabharata<sup>2</sup>, perhaps is the first epic which presents the term Ayurveda, divided into eight branches and they are Shalya (surgery). Shalakyā (diseases of E.N.T. including Ophthalmology), Kayachikitsā (internal medicine), Bhutavidyā (Bacteriology and Psychiatry), Kaumarabhrityā (Paediatrics), Agadatantra (Toxicology), Rasayantantra (Geriatrics) and Vajikarana (Aphrodisiacs). Most probably all the above branches of Medical Science were in vogue and practiced by the specialists of the particular field as it is apparently evident from the description of the four types of physicians<sup>3</sup>, i.e., Kayachikitsaka, Salyakart. Agadavid and the Atharvana physician, skilled in charms and magic's spells. Besides, we hear an episode of kashyapa,<sup>4</sup> the celebrated toxicologist, who wanted to treat Parikshita after being bitten by the serpent-

king Takshaka. We are also aware of the presence of Military surgeon (shalyodddharana-kovida<sup>5</sup>) attending to Bhishma. There is also reference of geriatricians (Rasayanavidah)<sup>6</sup>. The Lord Krishna himself was a well known paediatrician who had treated the pre-mature Parikshita who was internally radiated by the use of divine weapons used by Ashvatthama<sup>7</sup>, the son of Drona. Under this branch, we may mention the primitive description of the embryo-culture<sup>8</sup> belonging to the hundred sons of Dhrtarashtra. Hence, it may be deemed that the eight branches of Ayurveda were in promising progress.

### Physician

The Mahabharata uses so many terms for the physician and they are viz., Vaidya<sup>9</sup> Chikitsaka<sup>10</sup>

2. MBH., II.5.91 & II.25. Cf. Caraka, 1.30.28 and Sushruta, 1.1.7.

3. Ibid., XII.69.59.

4. Ibid., 1.3.182; 42.33-41; 50.17-27,55.

5. Ibid., VI.120.55-60.

6. Ibid., XII.28.47.

7. Ibid., 1.95.83,84.

8. Ibid., 114th chapter.

9. Ibid., 11.5.91; III.61.29; 209.15; VI.120.55; V.151, 12.58; X.3.9; XII.28.22; 45; 69.50; 243.15; 331.31; XIII.104, 116.

10. Ibid., III.124.12; V.33.84, 85, 87, 88; 35.44; 37.58; 38.4; 151.58; XII.36.30; 86.16; 331.30; XII.23.14; 135.11.14.

Bhishak<sup>11</sup>, Shalyakartrn<sup>12</sup>, Shalyoddharana-kovida<sup>13</sup>, Rasayanavid<sup>14</sup>, and Ayurvedavid<sup>15</sup>. The word 'Kavi'<sup>16</sup> is also applied to denote the physician and its modified form kaviraja is still prevalent in Bengal for the Ayurvedic physicians. Alike the Ramayana of Valmiki, the term Vaidya was not confined to physicians only, but it was also used in the sense of learned people. The word "vaidya" has been used 25 times and among them, 11 references stand for physician<sup>17</sup>. Similarly, the other synonymous terms like bhishak and chikitsaka have been referred to four and 11 times respectively in the Mahabharata.

### Ashvin -Twins

These twin-physicians are eulogised by Upamanyu, a disciple of Ayoda Dhaumya, for restoring the vision of his eyes<sup>18</sup>. Nakula and Sahadeva, the fourth and fifth pandavas, are considered as incarnations of Ashvin-twins<sup>19</sup>. Drugs (oshadhyah) are said as the weapons of these twins<sup>20</sup>. They are also present in the divine council of Brahman<sup>21</sup>. Ashwins were made entitled to drink the Soma-juice<sup>22</sup> by the effort of sage Chyavana whom they made young to enjoy the married life successfully and happily. Nasatya and Dasra are the two features of Ashwins<sup>23</sup>. Being the eighth son of Surya<sup>24</sup>, they are regarded as

11. Ibid., III.61.29; 124.9; XII.139.55.

12. Ibid., V.38.4.

13. Ibid., VI.120.55.

14. Ibid., XII.28.47.

15. Ibid., XII.342.87.

16. Ibid., V.33.10.

17. Ibid., II.16.8; III.159.7; V.6.2; 96.9; XII.17.22; 75.32; 262.20; XIII.22.9; 149.31.

18. Ibid., 1.3.56-74.

19. Ibid., 1.125.26; 150.30.

20. Ibid., 1.226.33.

21. Ibid., 11.11.44.

22. Ibid., 111.121.21, 22.

23. Ibid., XII.208.17.

24. Ibid.

Shudra<sup>25</sup>. Ashwin's medical and surgical skills are also dealt with in the compendia of Charaka<sup>26</sup> and Sushruta<sup>27</sup>.

### Cyavana

The well known recipe named as Chyavana-prasha was prescribed to him in order to regain the virility-reveals the Charaka Samhita<sup>28</sup>. He was a son of sage Bhirigu<sup>29</sup> in Puloma. He was married with Sukanya<sup>30</sup>, a daughter of king Saryati, who begot a son named pramiti<sup>31</sup>. Once, he para ysed the limb of Indra who did not intend to make entitled Ashvins to drink the Soma-juice in sacrifice (yajna)<sup>32</sup>. He was rejuvenated by Ashvins. Once he performed the penance in the water<sup>33</sup>.

### Dhanvantari

According to mythological tradition, Dhanvantari has been regarded as an expounder deity of Ayurveda. The Lord Dhanvantari, after churning the ocean by Gods and devils, appeared possessing the pitcher (kamandalu) containing the nector<sup>34</sup>.

### Divodasa

The original expounder of the Sushruta Samhita is Divodasa Dhanvantari, a king of Kashi. He, with his son pratardana, is mentioned in the Mahabharata<sup>35</sup> Machavi, the daughter of king Yayati, was his wife<sup>36</sup>.

### Sushruta

One of the illustrious students of Kashiraja Divodasa Dhanvantari was Sushruta who is regarded as a son of sage Vishvamitra men-

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25. Ibid., XII.207.24.

26. Chikitsa., 1 (4). 40-45.

27. Sutra, 1.17.

28. Chikitsa, 1(1). 62-74.

29. MBH., 1.5.8-11, 12-15,26-34. 6.1,2, 3-9

30. Ibid., 122nd chapter

31. Ibid., 1.8.1-3.

32. Ibid., 111.124.17 & 125.5.

33. Ibid., XIII. Chapter 50-53.

34. Ibid., II.18.38.

35. Ibid., 11.8.12, 10.

36. Ibid., V.117.118.

tioned in the Mahabharata<sup>37</sup> and Sushruta Samhita<sup>38</sup>.

### **Fundamentals of Ayurveda: Pancha-Mahabhuta**

The fundamentals of Ayurveda are entirely and solely based on the theory of Pancha-mahabhuta, viz Akasha, Vayu, Agni, Jala and Prithvi<sup>39</sup>. Ayurveda claims that the whole universe is constituted by these components and hence the diseases and drugs are also Panchabhautika. The Mahabharata discusses the above theory in detail with their specific properties (gunas)<sup>40</sup>. In one context, the four bhutas except Akasha, are prayed to provide the vitality to the universe<sup>41</sup>. Sometimes, the term Dhātu is also used to explain the bhutas<sup>42</sup>.

### **Doshas**

Vata, Pitta and Shleshman or

Kapha are the basic factors responsible to maintain the body in proper way. These are also called 'dhatus'<sup>43</sup>, when they are in equilibrium and when it is disturbed by the external environment including food etc., become doshas. Besides the properties and functions, the kriyakalas in the form of accumulation (sanchaya), vitiation (prakopa) etc., were also known at that time<sup>44</sup>. Agni is identical with Pitta and it is agreed in the Vatakalakaliya chapter of Charaka. Agni, classified in the three groups<sup>45</sup> viz., vaidyuta (electrical), jathara (enzymatic) and aindhana (of fuel) is also mentioned. Similarly, Vayu<sup>46</sup> has eight kinds, e.g., Pravaha, Avaha, Udana, Samvaha, Vivaha, and Paravaha.

### **Anatomy & Physiology**

The concept of seven dhatus

37. Ibid., XIII.4.55.

38. Cikitsa., 2.3; Uttara., 18.3; 66.3; Nid.,

39. Charaka, Sut., 26.25

40. MBH., 111.210.17, 18; 211. 3-27; VI. 5. 671; XII. 182. 16; 184; 194; 209.7-23; 224.17; 232, 233; 247; 252; 253; 285.

41. Ibid., 11.31.44, 45.

42. Ibid., XII.182.16; XIII. 63.32

43. Ibid., XII. 342.86, 87.

44. Ibid., XII.288.38.

45. Ibid., 111.3.19.

46. Ibid., XII.328.35-52.

(rasa, rakta, mamsa, medas, asthi, majja and shukra) was known<sup>47</sup>. The term Ojas has been used in the sense of strength<sup>48</sup> throughout the epic. Upadhatu like Snayu (ligament), Vasa (fat), nadi (nerve) etc. are also mentioned. The process of metabolism resembles that of the Charaka Samhita<sup>50</sup> Circulation<sup>51</sup> of the blood from the heart (nabhi) through the ten arteries (nadies) reminds us the same of Sushruta Samhita<sup>52</sup> Apana and Vyana Vayu with Jatharagni<sup>53</sup> have been located describing the Pakvashaya and Amashaya<sup>54</sup> with proper functions of these Vayus.

### Mind (Manas)

With the five cognitive organs

(indriyas), Manas :<sup>56</sup>has been functionally defined<sup>57</sup>, Its properties (gunas) are Satwa, Rajas and Tamas<sup>58</sup>.

### Life

Atman (soul) is a seat of consciousness of the body<sup>59</sup> and it generally lasts upto hundreds years<sup>60</sup>. This is the life-span of Kaliyuga. Separation from life is called death and it may be caused either by the diseases or accidents<sup>61</sup> In the Kaliyuga, the life-span of the female and male will be ten and sixteen years respectively from the fertility point of view<sup>62</sup>.

### Hygiene

The equilibrium in psycho-somatic gunas is health<sup>63</sup> and it is one of the

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47. Ibid., 111.222.14,15.

48. Ibid., 111.270.2; V. 120.22; VI. 54.47; VIII. 2.3; X.8.82.

49. Ibid., XII.214.16; XI.3.6.

50. Ibid., XIV.19.39. of. Sut. 28.3.

51. Ibid., XII.16.19; 111. 213. 16,17.

52. Sharira., 9.5.

53. Ibid., 111.213.11,12,14.18.

54. Ibid., 111.213.15.

55. Ibid., 111.213.7.

56. Ibid., 111.2.67,68.

57. Ibid., XII. 311.16-21.

58. Ibid., XII.16.13; 111.212.4,5.

59. Ibid., 111.213.18-20.

60. Ibid., V. 37.9.

61. Ibid., XII. 28.25.

62. Ibid., 111.190.48,49.

63. Ibid., XII.16.11, 13.

six pleasures of the world<sup>64</sup>. Body<sup>65</sup> is regarded to be abode of the pleasure and pain. Use of all the tastes (rasas) makes man healthy<sup>66</sup> but an excess of any taste is very harmful specially of the sweet<sup>67</sup>. Life should be maintained in order to observe the personal and public hygiene<sup>68</sup>. Diseases are usually seen arisen in the Ritusandhi<sup>69</sup> (between two seasons), hence the time factor (kala) is also important. An association of the elderly people provides mental calmness<sup>70</sup>. The tooth brush made of Tinduka is advised for tooth-cleanliness<sup>71</sup>.

### **Kala (Time)**

The Mahabharata has laid down great emphasis on the theory of

Kala. Narrating its importance Kala has been divided into many forms viz. Kshsana, lava, muhurta, ahoratrah, paksha, month, season, year and four yugas<sup>73</sup>. It is unavoidable factor to every body<sup>74</sup>. The whole phenomena of the universe are governed by the Kala<sup>75</sup>.

### **Surgery**

According to Sushruta<sup>76</sup>, Shalya (foreign body lying inside the body) is that which affects the mind and body. During the remote past, the arrows were used as missile in the war hence the main treatment was to extract the pieces of the same. That is why, the Military Surgeons were called as

64. Ibid., V.33.82,89; 36.67.

65. Ibid., XII.174.21.

66. Ibid., XII.139.80.

67. Ibid., XII.70.8-10.

68. Ibid., XII.240.6.7; 243.7.

69. Ibid., XII.69.84.

70. Ibid., 11.5.90.

71. Ibid., VI.38.

72. Ibid., 1.1.247-51; III.162-69; XII.25.8-12; 69, 79, 80; XII, 139.49-53, 57.

73. Ibid., XII.25.8-12; 227; 239.25.

74. Ibid., 11.37.38; XII.224.53; 231.12; 224.46.

75. Ibid., 11.46.16.

76. Sut. 7.4.

Shalyoddharana-kovida<sup>77</sup> and Shalyakarta (Surgeon)<sup>78</sup>. Military surgeons were called to treat wounded Bhishma<sup>79</sup> and Yudhishtira<sup>80</sup>

Sometimes, the foreign bodies were expelled out by the incantation<sup>81</sup>. In every fort, the surgeons were appointed with surgical accessories<sup>81</sup>. Medicated oils and Ghitas were also stored<sup>83</sup>. Resuscitative drugs (murchahara oshadhi) were also known to them. Once, Kunti was resuscitated by the sandal water<sup>84</sup>. Analgesic medicines (Vedananivrittikara)<sup>85</sup> were also in vogue.

The drugs named Vishalya<sup>86</sup> has been indicated to be used to

remove the fainting of Rama and Lakshmana. Every warrior possessed the scientific knowledge of vital parts (marmas)<sup>87</sup> of the body. Stana (breast)<sup>88</sup>, lalata (forehead)<sup>89</sup> and hridaya (heart)<sup>90</sup> are some examples of the same. Bhima<sup>91</sup> was one of the great marmajnas. the term Yogya<sup>92</sup> (practice) has the same sense of the Sushruta.

### Kayachikitsa (Medicine)

Vyadhi is a synonym of disease (roga) by which the creature is distressed<sup>93</sup>. The rogas are regarded to be the fruits of actions<sup>94</sup>. Diseases are divided into two groups viz., Sharira (somatic)

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77. MBH., VI. 120.55.

78. Ibid., V.38.4.

79. Ibid., VI. 120. 55-60.

80. Ibid., VIII. 89. 70, 71.

81. Ibid.

82. Ibid., XII. 69.56, 57, 59; 86.13, 14.

83. Ibid.

84. Ibid., 1.131.25.

85. Ibid., 11.23.4.

86. Ibid., 111.289.6.

87. Ibid., 11.77.17; VII. 146,32.

88. Ibid., VII. 92.34.

89. Ibid., IV. 61.38,40,42.

90. Ibid., IV.21.7.

91. Ibid., VIII. 51.46.cf. Sushruta, 1.9th chapter.

92. Ibid., VII. 54.45.

93. Ibid., 111.209,14.

94. Ibid., XII. 16.8; 104.6; 111.261.17,18.



and manasa (psychic)<sup>95</sup> and both are interdependent to each other<sup>96</sup>. Gada<sup>97</sup> is also mentioned as one of the synonyms of Disease Aadi<sup>98</sup> is mentioned as a mental disease synonym.

Nowhere the word 'Jvara' has been mentioned in vedic literature except the Paippalada School of the Atharvaveda. The Mahabharata has abundantly used the word in the sense of pained worries<sup>99</sup>. Besides the term 'Jvara' is also used as a fever<sup>100</sup>.

The description of the origin of the 'Jvara' in mythological episode reminds us the same spot of the Charaka Samhita<sup>101</sup>. Sexual appetite is also a disease which ends

the life<sup>102</sup>. Several diseases can not be cured by the best medicines and incantations<sup>103</sup>. The patient does not like the medicine when he is on the death bead<sup>104</sup>, wife is regarded best medicine for the diseased person<sup>105</sup>.

Diseases are the incarnations of the past sins<sup>106</sup>. Medicine and rituals can not save the patients<sup>107</sup> suffering from senility.

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95. Ibid., xii.16.9

96. Ibid., 11.78.21.

97. Ibid., 1.64.12.

98. Ibid.,

99. Ibid., 1.42.35,39; 53.17; 54.26; 131.60; 156.21; 172.2; 11.7.10; 49.27; 111.36.27; 47.29; 72.43; 76.53; 103.6; 244.14; 289.8; V.122.1; VII.73.19; 83.28; VIII.24.4; XII.284.190; 140.13; XIII.63.43;85.14.

100. Ibid., XII.282.2,3,7,34.

101. Ci. 3.15. cf.XII.283rd Chapt.

102. Ibid., 1.85.14.

103. VIII.49.8.

104. Ibid., II. 62.2; III. 37.2; VI. 65.26; IX. 5.5.

105. Ibid., III. 61.29,30.

106. Ibid., XII. 262.49.

107. Ibid., XII. 28.35.

### Various diseases

We come across the following diseases in the Mahabharata :

1. Agnidagha (Burn) : MBH., XII.303.6.
2. Akshiroga (Eye diseases) : Ibid., XII. 303.5,
3. Apasmara (Epilepsy) : Ibid., 303.6: XIII. 23.13
4. Dantashula (Otagia) : Ibid., XII/.303.5.
5. Galaganda (Scrofua) : Ibid., XII.303. 6.
6. Galagraha (Pharyngitis) : Ibid., XII. 303.5.
7. Grahani (Sprue) : Ibid., III. 209.16.
8. Jalodara (Ascitis) : Ibid., II, 233.16; XIII. 303.6.9
9. Jvara (Fever) : Ibid., XII. 28.25: 281.31,40;283.
10. Kushtha (Leprosy) : Ibid., XII. 303.6.
11. Napumsakata (Impotency) : Ibid., III. 233.16.
12. Palita (Whiteness of hair) : Ibid., III. 233.16.
13. Rajayakshma (Pthysis) : Ibid., IX. 35.45,87; XIII. 23.13.
14. Sidhma (Ptyriasis) : Ibid., XII. 303.6.
15. Shirah shula (Headache) : Ibid., III. 297.5.
16. Shirsha roga (Head-disease): Ibid., V. 36.68.
17. Shvitra (Leucoderma) : Ibid., XIII. 10.18; 23.13.
18. Unmada (Insanity) : Ibid., III. 150.44.
19. Urustambha (Paraplegia) : Ibid., V. 75.18; XII. 281,10; X, 8.82.
20. Vishucika (Cholera) : Ibid., XII. 303.6.

### Arista

Unfavourable signs indicating to death are mentioned here<sup>108</sup>.

### Omens & Dreams

The Mahabharata refers to various portents, omens<sup>109</sup> and

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108. Ibid., XII.317. 8-21; XVI.3. 1-47.

109. Ibid., 1.30. 31-38.

dreams<sup>110</sup> both auspicious<sup>111</sup> and unauspicious<sup>112</sup>.

### Paediatrics

According to Sushruta, upto sixteen years the boy should be called as a Bala, but the Mahabharta confines it to twelve years old<sup>113</sup>. This epic describes the Balagrahas as Shakuni, Putana, Sltaputana<sup>114</sup> Revati and Mukhamandika in details and has added the episode<sup>115</sup> regarding Skanda, a responsible deity for the same.

### Psychiatry (Bhutavidya)

Daivavyapasraya treatment was in vogue at that time<sup>116</sup>, Kashyapa<sup>117</sup>, the celebrated Toxicologist, was well versed in the magic spell also. Some cases were treated with the incantations. Alike the Samhitas of

Charaka and Sushruta, the Apasmaragrahas<sup>118</sup> like Deva, Pitru, Siddha, Rakshsasa, Gandharva, Paishacha and Yaksha were also known to those people.

### Geriatric (Rasayana)

This science was also prevalent in practice<sup>119</sup>. Chyavana and Yayati<sup>120</sup> had been rejuvenated, Rasayana aims to avoid the senility and provides the longevity.

### Obstetric and Emryology

When Draupadi was molested by Dushasana she was having the menstruation and clad in one garment<sup>121</sup>. Menstrual period of the three days is called Ritu hence the ladies are named in that period as Ritumati and Ritudana<sup>122</sup> is a meeting of couple on the fourth day

110. Ibid., 11.23.3; 26.13-16.

111. Ibid., II.26.13-16; V. 143.16-141; VI. 3.64-67; VIII. 72.11-14.

112. Ibid., I.30.33-38; II. 62.3; 80. 28.30; 81.22-25; III. 280.64-72.

113. Ibid., I. 107.14.cf. Susruta. 1.35.29.

114. Ibid., III. 230.24-30.

115. Ibid., 230th chapter; IX. 46.44-51; 230.35-45.

116. Ibid., I. 42.29,30; 51.9; 56.15; III. 11.19.

117. Ibid., I. 43.21.

118. Ibid., 230.47-53..III.

119. Ibid., XII. 28.47.

120. Ibid., I. 84.2-30.

121. Ibid., II. 67. 19; 34,39; 80.81,14,15; III. 12.63.

122. Ibid., I. 82.32-34.

to beget the child. If it is avoided, the Shastrakaras name it as *Bhrunahatya*.

Through the dialogue of Ashtaka and Yayati, the whole embryology<sup>123</sup> has been dealt with. Premature delivery<sup>124</sup>, of Parikshita, fertilized ovum-culture with multiplicity<sup>125</sup>, are also mentioned in primitive form. *Garbhashaiyya* seems to be signified in the sense of uterus here. It concisely explains the monthly growth of embryo<sup>126</sup>.

#### Toxicology :

The Mahabharata is also aware of the three types of poisons and they are *ananimata* (*sthavara*), *animata* (*jangama*) and *toxins* (*kritrima*) *Kalakusta* was a deadly poison churned out of the ocean

and drunk by the Lord Shiva<sup>127</sup>. The same poison, belonging to the first group, mixed in food, was administered to *Bhima*<sup>128</sup> by Kuru-brothers to end his (*Bhima's*) life, but it was neutralised when he reached the *Nagaloka* and was bitten by the snakes<sup>129</sup>. *Gara*<sup>130</sup> may be taken as an example of the third group. Toxicology was also an important subject to be known by the kings<sup>131</sup>. *Chakshuvisa*<sup>132</sup> of the snakes is also indicated here. An arrangement was made using the *agadas*<sup>133</sup> (antidotes) in order to protect the life of king *Parikshita*, *Scorpion-bite* was treated by the *Atharvana hymns*<sup>134</sup> *pramadvara*, the wife of *Chyavana's* grandson, was bitten by snake before her marriage with *Ruru*. The signs of snake-bite are also narrated in the context<sup>135</sup>. *Parikshita*

123. *Ibid.*, I. 90.6-20.

124. *Ibid.*, I. 95.83,197.

125. *Ibid.*, I. 114.9-125.

126. *Ibid.*, III. 320.117-122.

127. *Ibid.*, I. 18.41-43.

128. *Ibid.*, I.18. 41-43; 127.45,47, 53-55; III.12.80.

129. *Ibid.*, I.127.57.

130. *Ibid.*, I. 139.41;V.35.46.

131. *Ibid.*, II.5.123.

132. *Ibid.*, I.32.6.

133. *Ibid.*, I.43.22.

134. *Ibid.*, VIII. 40.33,34.

135. *Ibid.*, I.8.17-22.

was bitten by Takshaka<sup>136</sup>. His son Janmejaya performed the snakes sacrifice in order to abolish the whole family of the snakes<sup>137</sup>

### Family or Species of the Snakes

Vasuki, Takshaka Airavata, Kauravya and Dhrtarashtra are said to be the chief species of the snakes. They are 15, 18, 10, 10, 10, and 36 in number respectively<sup>138</sup>. Besides there is a list of 77 snakes in the same parvan<sup>139</sup> but they are innumerable<sup>140</sup> having various size and shapes<sup>141</sup>.

### Food & Drinks

People were accustomed to take the food, vegetarian and non-vegetarian both. Cereal (anna) fruit (phala) and stem (kanda) were the chief menus of the vegetarian food. Vegetarian food was classified as edible (bhojya), chewable (bhakshya), lickable (lehya), drinkable (peya) and suckable (chushya-<sup>142</sup>) Supa<sup>143</sup> Odana<sup>144</sup>, Gudharasa<sup>145</sup>, Payasa<sup>146</sup>, Ghratapayasa,<sup>147</sup> Krishara-<sup>148</sup>, Rasala-<sup>149</sup>, Yavaka<sup>150</sup>, Ragasadava<sup>151</sup>, Modaka<sup>152</sup> Apupa<sup>153</sup>, Purika<sup>154</sup>, Shashkuli<sup>155</sup>, Karambha<sup>156</sup> etc. were

136. Ibid., I.41.14;43.30,31.

137. Ibid., I.58th chapter.

138. Ibid., I57th chapter cf. Sushruta, Kalp., 4.34.

139. Ibid., I.35. 5-16. cf. Sushruta, Kalp., 4.34.

140. Ibid., I. 35.19.

141. Ibid., I. 52. 6-9.

142. Ibid., I. 81. 4; 127. 34; 145. 9; 174. 11; 193. 13; 221. 19; 12.4. 103; 8.5, 6; 17; 18.5; 35. 5; III. 3. 73; 3. 82; 92. 20; IV. 2.5; XII. 164. II; 284. 44, 45.

143. Ibid., VI. 62. 14-16; 64. 7-9.

144. Ibid., VIII. 41. 14.

145. Ibid., VI.62.14-16

146. Ibid., II.4.1-3; VIII, 41.14.

147. Ibid., V.143.33.

148. Ibid.,

149. Ibid., XII. 300.44.

150. Ibid.,

151. Ibid., VI.64. 7-9; XII. 53.18.

152. Ibid., VI. 64. 7-9; XII 53.18.

153. Ibid., I.3. 69-72.

154. Ibid., VI 64. 7-9; XII. 53.18.

155. Ibid:

156. Ibid., VIII.43.21.

special preparations belonging to above groups. Saktu<sup>157</sup> was also used by the Vahikas<sup>158</sup>. Pinyaka<sup>159</sup> and Udasvita<sup>160</sup> are also mentioned here.

So far as the non-vegetarian food is concerned, people were also fond of taking the meat of deer<sup>161</sup>, cow<sup>162</sup> goat<sup>163</sup>, hen<sup>164</sup>, ass and boar<sup>165</sup>. Veshavara<sup>166</sup> is also mentioned here.

People used to take several types of wine like madira<sup>167</sup>, Sidhu<sup>168</sup>, Gaudhasava<sup>169</sup>, Madhvika<sup>170</sup> etc.

## **Metals & Jewels**

The Mahabharata is acquainted with gold with its various synonyms like Kanaka, Kanchana, Jambunada, Suvarna, Hiranya Hema, Rukma, Satakumbha, Jatarupa and Chamikara. Silver, copper, iron, bronze, tin (trapu) and lead. Among the minerals, the names of Hingula, Manahshila, Gairika and Anjana may be stated. Various jewels like Vaidurya (lapis lazuli), Mukta (pearl), Pravala (sprout), Vidruma (corals), Padmaraga (ruby) Pusparaga (topaz) and Marakata (emerald) were used for decoration purpose

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157. *Ibid.*, XII. 300.43.

158. *Ibid.*, XII. 167.35.

159. *Ibid.*, I.69. 29, 29; III.50.4-7.

160. *Ibid.*, VIII. 44. 27,28.

161. *Ibid.*,

162. *Ibid.*

163. *Ibid.*

164. *Ibid.*

166. *Ibid.*, XIII.43.57.

167. *Ibid.*, II.68. 20; I.147.8.

168. *Ibid.*, III.46.13; VIII. 44.29; 45. 38

169. *Ibid.*, VIII, 44.1.

170. *Ibid.*, 83.30; XI. 21.7.

**Medicinal Plants**

The following medicinal plants are mentioned in Mahabharata of Vedaayasa in several contexts and they can be numbered as 179:-

- |                 |                  |                    |
|-----------------|------------------|--------------------|
| 1. Alabu        | 29. Airanda      | 57. Karisha        |
| 2. Ambuja       | 30. Kokanada     | 58. Kadali         |
| 3. Anjtira      | 31. Kovidara     | 59. Kankola        |
| 4. Aguru        | 32. Ketaka       | 60. Kamala         |
| 5. Ashoka       | 33. Kurubaka     | 61. Kadamba        |
| 6. Arjuna       | 34. Kutaja       | 62. Karnikara      |
| 7. Ashvattha    | 35. Kushmanda    | 63. Kharjura       |
| 8. Amlavetasa   | 36. Kunda        | 64. Khadira        |
| 9. Arani        | 37. Kusha        | 65. Kshirika       |
| 10. Atimuktaka  | 38. Kubjaka      | 66. Ginjanaka      |
| 11. Arka        | 39. Kumuda       | 67. Guggulu        |
| 12. Ankola      | 40. Kinjalka     | 68. Chuta          |
| 13. Ashtapadika | 41. Kichaka Venu | 69. Chandana       |
| 14. Arimeda     | 42. Kimshuka     | 70. Champaka       |
| 15. Atasi       | 43. Kalamra      | 71. Chirabilva     |
| 16. Arishta     | 44. Kaliyaka     | 72. Jivanti        |
| 17. Amra        | 45. Kakayava     | 73. Jambu          |
| 18. Amrataka    | 46. Kalaguru     | 74. Japa           |
| 19. Amalaka     | 47. Kashmari     | 75. Tunga Kaliyaka |
| 20. Atarushaka  | 48. Kasa         | 76. Tinduka        |
| 21. Inguda      | 49. Kakubha      | 77. Tila           |
| 22. Ikshu       | 50. Kapittha     | 78. Tilaka         |
| 23. Ishika      | 51. Karanja      | 79. Tala           |
| 24. Indivara    | 52. Kalaiya      | 80. Tamala         |
| 25. Utpala      | 53. Karamarda    | 81. Dhanva         |
| 26. Ushira      | 54. Kalhara      | 82. Dhava          |
| 27. Udumbara    | 55. Karushaka    | 83. Devadaru       |
| 28. Uddalaka    | 56. Karavira     | 84. Dadima         |

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|-----------------|---------------------|--------------------|
| 85. Darbha      | 117. Bata           | 149. Sobhanjana    |
| 86. Nipa        | 118. Bandhujiva     | 150. Saivara       |
| 87. Nivara      | 119. Balvaja        | 151. Shlehsmataka  |
| 88. Nilotpala   | 120. Bakula         | 152. Suka Chandana |
| 89. Nagapushpa  | 121. Badara         | 153. Shirisa       |
| 90. Narikela    | 122. Bhallataka     | 154. Shimshipa     |
| 91. Nygrodha    | 123. Mocharasa      | 155. Sala          |
| 92. Nalini      | 124. Meshasrhgi     | 156. Shali         |
| 93. Punnaga     | 125. Munjataka      | 157. Shalmali      |
| 94. Pundarika   | 126. Masha          | 158. Shyamaka      |
| 95. Pushkara    | 127. Mahoshadhi     | 159. Shana         |
| 96. Pilu        | 128. Mahsala        | 160. shami         |
| 97. Pippala     | 129. Madhoohka      | 161. Shari         |
| 98. Priyala     | 130. Mallika        | 162. Shallaki      |
| 99. Priyangu    | 131. Manju          | 163. Shatapatra    |
| 100. Paribhadra | 132. Mandara        | 164. Saugandhika   |
| 101. Paravata   | 133. Yava           | 165. Saptaparni    |
| 102. Patali     | 134. Rochana        | 166. Suvarchala    |
| 103. Patala     | 135. Rajiva         | 167. Sindhuvara    |
| 104. Patala     | 136. Rakta chandana | 168. Shala         |
| 105. Palasha    | 137. Rakta Ashoka   | 169. Sahakara      |
| 106. Padmini    | 138. Lakucha        | 170. Syandana      |
| 107. Palalakaur | 139. Lasuna         | 171. Saptaparna    |
| 108. Palandu    | 140. Lodhra         | 172. Sharsapa      |
| 109. Padma      | 141. Vetra          | 173. Sarja         |
| 110. Padmaka    | 142. Venu           | 174. Sarala        |
| 111. Parijata   | 143. Vetasa         | 175. Shasthi       |
| 112. Pankaja    | 144. Vrihi          | 176. Hinguka       |
| 113. Panasa     | 145. Varana pushpa  | 177. Harichandana  |
| 114. Plaksha    | 146. Varuna         | 178. Haridra       |
| 115. Bijapura   | 147. Vatsanabha     | 179. Haritaki      |
| 116. Bibhitaka  | 148. Vamsa          |                    |



### Numerical Abbreviations Indicating The Names of Parvans

1.	Adiparvan	---	---	I
2.	Sabha parvan	---	---	II
3.	Vana parvan	---	---	III
4.	Virata parvan	---	---	IV
5.	Udyoga parvan	---	---	V
6.	Bhishma parvan	---	---	VI
7.	Drona parvan	---	---	VII
8.	Karna parvan	---	---	VIII
9.	Shalya parvan	---	---	IX
10.	Sauptika parvan	---	---	X
11.	Stri parvan	---	---	XI
12.	Shanti parvan	---	---	XII
13.	Anushasana parvan	---	---	XIII
14.	Asvamedhika parvan	---	---	XIV
15.	Ashramavasika parvan	---	---	XV
16.	Mausala parvan	---	---	XVI
17.	Mahaprasthanika parvan	---	---	XVII
18.	Swargarohana parvan	---	---	XVIII

## महाभारत में आयुर्विज्ञान की प्रगति की झलक

— ज्योतिर्मित्र

आयुर्विज्ञान की द्रष्टि से भी महाभारत एक अत्यन्त महत्वपूर्ण ग्रन्थ है। इसके अनुसार पुराकाल में आयुर्वेद एक अनिवार्य विषय था जिसे प्रत्येक छात्र को पढ़ना पड़ता था। आयुर्वेद शब्द का प्रयोग संस्कृत—साहित्य में संभवतः पहले—पहल महाभारत में ही हुआ है। इसमें चार प्रकार के चिकित्सक बताये गये हैं। इसमें प्रसिद्ध विषवैद्य कश्यप की कथा भी वर्णित है। सेना के साथ सामरिक शल्यचिकित्सक भी रहते थे। भगवान कृष्ण कौमार भृत्य के विशेषज्ञ थे। रसायनविदों की भी उन दिनों कमी न थी। इसमें आयुर्वेद के मौलिक सिद्धान्तों का प्रतिपादन भी सम्यक रूप से हुआ है।