Concept of Krimi, from Vedic and Ayurvedic perspective-A Review
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Abstract:
Healthy state of body and mind is a key of happiness. In spite of technical and scientific advancement, incidence of various diseases in early age is a global issue. Changing lifestyle, altered food habits, vegetables, animal products grown and produced with artificial fertilizers and chemicals collectively cause vitiation of Doshas and to certain extent formation of Krimi. Knowledge of Krimi and its description in Vedas and Ayurvedic Samhitas is very unique and different from the concept of worm in modern medical science. Krimi is a broad terminology in ancient Indian science which encompasses various types of helminths, microorganisms like bacteria, viruses, fungi, protozoa causing a large variety of diseases. Therefore, diagnosis and treatment of Krimi is essential to treat various diseases including Anukta vyadhi like Cancer, CRF. Early days, there was a tradition of periodic deworming. Now a days, poor hygienic conditions, Unctus food, faeco-oral infection, contaminated food and water are the additional causes for manifestation of Krimi. Treatment of Krimi as explained in Charak Samhita is Apakarshana (De-worming), Prakruti Vighaat (medicines, food and lifestyle which restricts formation and growth of Krimi) and Nidan Parivarjan (avoiding causative factors of manifestation of Krimi). This article elaborates concept of Krimi from Vedic and Ayurvedic perspective, which is useful for its’ clinical application in the treatment of various dreadful diseases like cancer, diabetes, diseases of female genital tracts.

Key words: Worm, Krimi, Ayurved, Veda, Durnam, Insect

Introduction:
Krimi is a broad terminology in ancient Indian science which encompasses various types of helminths, bacteria, viruses, fungi causing a large variety of diseases. As per WHO, currant prevalence rate of worm infestation in adults in India is 4.92%. This figure is projected to rise at 2030. Worms are proved to be a causative factor of various diseases like helminthiasis, liver cirrhosis, aid-peptic disorders (caused due to H. pylori), and guinea-worm disease as...
per modern medical science. The major pathogenic worms include roundworm, pinworm, whipworm, hook-worm, and dwarf round worm, guinea worm, tapeworm, flat worm, flukes, and liver flukes. As stated by Otto Braun-Falco et al in the chapter 9 of the textbook – Dermatology - “Diseases caused by worms”, there is no organ or organ system in which either worms or their larvae are not capable of establishing themselves. Even in the time before 2500-2000B.C., when microscopic examination was not available, similar concept of Krimi is elaborated in ancient Indian Vedic literature and Ayurvedic texts in the form of hymns. Remedy for Krimi is explained in second and fifth khandas of Atharvaveda. Collective information about classification of Krimi on the basis of etymology of their various synonyms, sex, colour, gait, activity, site, pathological status and pathogenicity for various diseases as mentioned in ancient Indian texts is described in this article.

**Aim:**

To study concept of Krimi explained in Vedic literature and Ayurvedic texts.

**Objectives:**

To study classification, pathogenesis and morphology of Krimi in the view of Vedic literature and Ayurvedic texts.

**Materials and Methods:**

Literature review about Krimi, their synonyms, classifications and pathogenesis was done from ancient Vedic and Ayurvedic literature like Nirukt, Amarakosh, Vachaspatyam, Shabdakalpadruma, Girvan Laghukosh, Apte Dictionary, Ayurveddeeya Shabdakosh, Rugved, Atharvaved, Charak Samhita, Sushrut Samhita, Ashtanga Hrudaya, Ashtanga Sangraha, and Harit Samhita. Analysis and interpretation of data collected from the literature is done on the basis of etymology of their various synonyms, classification of Krimi with special reference to sex, colour, gait, activity, site, pathological status and pathogenicity for various diseases.

**Analysis and interpretation**

**A) Synonyms of Krimi**

i) Kremi, Krumi, Krami, Keera, Kimidi - In Vedic literature, few words comes across as synonyms of Krimi as Kremi, Krumi, Keera, Kimidi.

**B) Correlation of Krimi with certain entities**

In Vedic literature, there is a description of certain entities, which can be correlated to the concept of Krimi -

i) राक्षस (Rakshasa) - Krimi are said to be Rakshasa meaning demon which eat raw meat.

ii) असूर (Asura) – Meaning of Asura is those who destroy life.

iii) Apsara – Meaning fairy that makes noise.
They don’t stay at one place. They can go anywhere in the body. They can be visualized clearly.

iv) Gandharva
Gandharva are type of Krimi, which are in between a phase of birth and death. They are also termed as ‘Yatana Sharira’or ‘Gupta’ Prani’, meaning producing agony in the body or invisible creature respectively.

v) Yatudhaan – Yatudhaan is a synonym of Krimi meaning one which causes pain. These are Evil spirit or Demons.

vi) Jantu –
The word Jantu is used for Krimi in Kathopanishad and Mandukopanishad.

vii) Sarpa - In Chhandogyopanishad, Bhoootvidya be an assumption of Krimi Vidnyan. Saptapath Brahman, Maitreya Samhita, Taittareey Upanishad recognize the description of Krimi as ‘Sarpa’. Worms are called serpents for its serpentine activity.

C) Classification and Nomenclature of Krimi—
Krimi are classified and named according to morphology, movement, site, pathological aspect.

I. On the basis of morphology (includes particular form, shape, structure, colour)

a. Bahya krimi

i) Leeksha - Eggs of louse – Those who are tiny and moving.

ii) Yuka – Louse – Those who are tiny, several legs and thus moving.

iii) Binduki – A type of Krimi, whose appearance is similar to Yava (Barley). It is a poisonous insect, growing in hot atmosphere and causes Pitta dominant diseases.

(Ref. - Sushrut Samhita). In another text, Binduki is described as rounded worm, which is grown in urine.

iv) Charmayukika, Krishna, Shweta – Krimi which have skin like leather are termed as Charmayukika. Those having black colour are termed as Krishna and white colour are named as Shweta.

b) Abhyantar Krimi
Kikwisha, Gandupad,Kapinjala.Ayawah,Pippilika, Darbhakusuma,Leliha,Snayuka, Mahapushpa, Mahagud, , , Praloon, Chipit, , Makeruk, Chipya, , Dwimukha, Pruthumunda, Dhanyankurnibha, Suchimukha, Kinchuk sannibha, Anwah, Sukshma, Udumbara

i) किक्विशिः – A kind of worm (said to be injurious to hair, nail and teeth)(केशाद, नखाद)

ii) गण्डुपद – गण्डुपदस्य रूपाणि पिक्विशालानि मुदुनि च। इति माधवकर रोगविक्षयेऽ/अशोधिकारे ।

iii) कक्पञ्जल –
Because of its speed (जलते) like (इव), a monkey (कक्पिः)

iv) अयविः –
अल्पो यवस्तु तुल्यो वा।पूरीषजे कृमीभेदे।

C) Morphology of Bahya and Abhyantar Krimi -
In Mahabharata, Krimi are described as Adrushya (invisible) and Sukshma (Sharp penetrating).
II. On the basis of site or location
   a. Lomadwipa (Lomadwipa) – Type of Krimi which reside in body hairs i.e. Loma
   b. ककेरुकक – A worm in the
   c. III. On the basis of movement
      a. Bahya Krimi – classified on the basis of movement as Yuka and Plavangika

IV. On the basis of pathological status –
   a. Bahya Krimi – Matkuna
   b. Abhyantar Krimi – Charakacharya described Abhyantar Krimi on the basis of their action on producing diseases at various sites like Antrad, Udarad, Udaraveshta, Hridayad, Darun, Sashul, Lelih, Keshad, Lomad, Sausurada, Nakhd, Dantad, Kikkistha, and Kushthaja.

V. On the basis of etymological meaning –
   a) Abhyantar Krimi
      Churu (चुरु), Sugandhak (सुगंधिक), Kakeruk (ककेरुकक), Sausurada (सौसुराद), Kipya (किप्या), Jantumatarah (जन्तुमातरः) are the names of Krimi according to etymology.

VI. On the basis of shape –
   a. Vishwarupa (विश्वरूप) – having different shapes and sizes (Atharva Veda 7)
   b. Kanvah (कण्व) – Very small in size and clever in nature
   c. Kshullakah (क्षुल्लकिः) – Very small in size and reside in cluster (Atharva Veda 20)
   d. Keshah (केशिः) – Having hair like structure on the body (may be flagellated or ciliated)
e. Chaturaksham (चतुरक्षम्) – having four eyes with extraordinary action or able to move in all directions spontaneously (Atharv Veda 7)

f. Trikakuda (त्रिकुकोड़) – Having 3 haunches (Atharv Veda 18)

g. Trishirashi (त्रिशिराशि) – having three heads (may be virupah(विरूप), disfigured (Atharv Veda 18)

VII. On the basis of location:

a. On mountain – Living on mountain or high altitude (Atharva Veda 5)

b. In forests – Living in the forests (Atharva Veda 5)

c. Inside the Aushadhi - medicines (Atharva Veda 5)

d. On the body of cattle – living on cattle (Atharva Veda 5)

e. In water – Living in water (Atharva Veda 5)

f. Inside the soil – living inside the soil (Atharva Veda 5)

g. Inside the human body—Avantrayam(आवन्त्र्यम्) (residing in the intestines - Atharva Veda 4); Shirshantyam(शीषांत्र्यम्) (residing in head – Atharva Veda 4); Parshteyam (पाष्टेयम्)(residing in ribs – Atharva Veda 4)

VIII. On the basis of colour:

a. Arjunah (अजूानिः) — Whitish but not white

b. Babhruh (बभ्रु) – Reddish brown (Tamra varna)

c. Babhrukarna (बभ्रुकर्ण) – Reddish brown ears

d. Rohitah (रोहिति) – Colour of blood

e. Sarangah (सारंग)– Different colors

IX. On the basis of Gait (manner of walking):

a. Awaskavah (अवििः) – Performs downward movement

b. Vyadhawah (क्वध्विः)– performs retreat movement

c. Yewashesh (यवाशेषः)– Performs rapid movement

X. On the basis of sound:

a. Kashakasah (कशकशः)– produces rough sound

b. Nawnimah (नानिमह)– produces low pitch sound

XI. On the basis of nature:

a. Algandunah (अल्गण्डुनिः) – Destroys blood and flesh

b. Ajatkah (अजक्तिः) – Causes shivering

c. Ashrikpawah (असृक्पविः)– Site is blood and drinks blood

d. Kravyad (क्रव्यः)– Eats raw flesh

e. Manohanan (मनोहनन) – Causes mental disturbances

XII. On the basis of sex:

Two types of worms are mentioned in Atharvaveda, male and female.

XIII. On the basis of pathogenicity:

a. Sunama: This word is used for those worms who does not cause any disease or any harm to body e.g. lactobacillus in the intestine. These organisms are helpful to the body. It helps to maintain functions of various systems of the body like lacto-bacilli.
b) Durnam (दुर्नम्):
This word denotes harmful worms and responsible for many diseases like Kshaya Roga, Yoni Vikara.

Such types of Krimi resides in womb (Yoni), eats flesh. It is serpentine and causes various diseases. In Rugved, habitat of Durnam is described as Yoni (womb). It eats the flesh and causes diseases in the womb. It has capacity to move anywhere in body and causes disaster in the form of disease.

Prevention and treatment of Krimi as explained in Vedas
Prevention and treatment of Krimi is explained in Vedas. Various Mantras recommending worship of Maruta, Megha, Agni, Surya, Vidyut and Jala are described in Vedas with the aim of destroying Krimi. The principle behind this enchanting may be the following:

a) Maruta (Wind) – Worship of wind to prevent microbes in the atmosphere which get scattered with blow of wind.

b) Megha (Clouds) – Worship of Megha for rain to clear the environment and make it free from most of the microorganisms as they are washed away with showers.

c) Agni (Fire) – Fire is thought to be the most important source for disinfection from the ancient time.

d) Sheela (Stone) – Stones are used to destroy Krimi by crushing them.

e) Surya (Sun) – Sunrays with presence of ultraviolet rays (as per modern science) are potent enough to kill microbes in the atmosphere.

Ayurvedic concept of Krimi
Charakacharya has explained twenty types of Krimi, which can be grouped into four on the basis of their source. Malaja born of external excreta, Purishaja born of feces, Shleshmaja born of phlegm and Shonitaj born in blood.

Sushrutacharya has described in-depth etiology, pathology and treatment of Krimi in Uttarsthaan 5th chapter. Twenty types of Krimi are classified with various categories as i) Drishta (दृष्ट) (visible) and Adrushta (अदृष्ट) (non-visible) ii) Purishaja (arose from feces), Shleshmaja (arose from Kapha dosha-phlegm) and Raktaja (रक्तज) (Arise from Rakta-blood) Krimi. Ashtang Sangraha and Ashtang Hrudaya Samhita explained causative factors and pathogenesis of Krimi in Nidansthana and its treatment in Chikitsasthan.

Table 1: Types of Kaphaja Krimi according to Samhitas (Brihatrayee) in Ayurveda

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>CHARAK</th>
<th>SUSHRUT</th>
<th>VAGBHAH</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>ANTRAD</td>
<td>MAHAPUSHPA</td>
<td>ANTRAD</td>
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<tr>
<td></td>
<td>(अन्त्राद)</td>
<td>(महापुष्प)</td>
<td>(अन्त्राद)</td>
</tr>
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<td>2</td>
<td>UDARAD</td>
<td>CHIPIT</td>
<td>UDARAWESHTA</td>
</tr>
<tr>
<td></td>
<td>(उदराद)</td>
<td>(चिपित)</td>
<td>(उदरावेष्ट)</td>
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<td>3</td>
<td>HRIDAYAD</td>
<td>PRALOON</td>
<td>HRIDAYAD</td>
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<td></td>
<td>(हृदयाद)</td>
<td>(प्रलून)</td>
<td>(हृदयाद)</td>
</tr>
<tr>
<td>4</td>
<td>CHURU</td>
<td>PIPPIILA</td>
<td>CHURU</td>
</tr>
<tr>
<td></td>
<td>(चुरु)</td>
<td>(पिप्पिलिका)</td>
<td>(चुरु)</td>
</tr>
<tr>
<td>5</td>
<td>MAHAGUD</td>
<td>DARUN</td>
<td>MAHAKUHA</td>
</tr>
<tr>
<td></td>
<td>(महागुद)</td>
<td>(दारुण)</td>
<td>(महाकुह)</td>
</tr>
<tr>
<td>6</td>
<td>SOUGANDHIK</td>
<td>--</td>
<td>SOUGANDH</td>
</tr>
<tr>
<td></td>
<td>(सौगांधिक)</td>
<td></td>
<td>(सौगांध)</td>
</tr>
<tr>
<td>7</td>
<td>DARBHAKUSUM</td>
<td>DARBHAPUSHPA</td>
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<td></td>
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<td>(दर्भपुष्प)</td>
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### Table 2: Types of Purishaja Krimi according to Samhitas (Brihatrayee) in Ayurveda

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<th>HAREET</th>
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<td>1</td>
<td>KAKERUK (ककेरुक)</td>
<td>KAKERUK (ककेरुक)</td>
<td>AWA (अव)</td>
<td>PRUTHUMUND (पृथुमुण्ड)</td>
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<td>2</td>
<td>MAKERUK (मकेरुक)</td>
<td>MAKERUK (मकेरुक)</td>
<td>VIJYA (विज्य)</td>
<td>DHANYANKURNIBHA (धन्याकुरनिभ)</td>
</tr>
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<td>3</td>
<td>SOUSURAD (सौसुराद)</td>
<td>SOUSURAD (सौसुराद)</td>
<td>KIPYA (किप्य)</td>
<td>SUCHIMUKHA (सूचिमुख)</td>
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<tr>
<td>4</td>
<td>SASHOOL (सशूल)</td>
<td>SASHOOL (सशूल)</td>
<td>CHIPYA (चिप्य)</td>
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<td>5</td>
<td>LALIH (लेलिह)</td>
<td>LALIH (लेलिह)</td>
<td>GANDUPAD (गंदूपद)</td>
<td>KINCHUKSANIBHA (किंचुकसनिभ)</td>
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<td>==</td>
<td>CHURU (चुरु)</td>
<td>ANAWAH (अण्विः)</td>
</tr>
<tr>
<td>7</td>
<td>==</td>
<td>==</td>
<td>DWIMUKH (द्विमुख)</td>
<td>SOOKSHMAH (सूक्ष्माः)</td>
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</table>

### Table 3: Types of Raktaj Krimi according to Samhitas (Brihatrayee) in Ayurveda

<table>
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<th>CHARAK</th>
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<th>VAGBHAT</th>
</tr>
</thead>
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<td>1</td>
<td>KESHAD (केशाद)</td>
<td>KESHAD (केशाद)</td>
<td>KESHAD (केशाद)</td>
</tr>
<tr>
<td>2</td>
<td>LOMAD (लोमाद)</td>
<td>ROMAD (रोमाद)</td>
<td>LOMAD (लोमाद)</td>
</tr>
<tr>
<td>3</td>
<td>LOMADWIP (लोमाविप)</td>
<td>NAKHAD (नखाद)</td>
<td>LOMAVIDHWANSA (लोमविध्वानस)</td>
</tr>
<tr>
<td>4</td>
<td>SAURASA (सौरस)</td>
<td>DANTAD (दन्ताद)</td>
<td>SAURASA (सौरस)</td>
</tr>
<tr>
<td>5</td>
<td>UDUMBERA (उदुम्बर)</td>
<td>KIKKISHA (किक्किश)</td>
<td>UDUMBERA (उदुम्बर)</td>
</tr>
<tr>
<td>6</td>
<td>JATUMATRA (जातुमात्र)</td>
<td>KUSHTHAJA (कुष्ठजा)</td>
<td>MATRAHA (मातरा)</td>
</tr>
<tr>
<td>7</td>
<td>==</td>
<td>==</td>
<td>PARISARPAJA (परिसर्पज)</td>
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</table>

Madhav Nidan has classified Krimi as Bahya and Abhyatar Krimi. Abhyantar Krimi are again classified as Purishaja (fecal origin), Shleshmaj (phlegmic origin), Raktaj (haemic origin) Krimi (Madhav Nidan Adhyaya 16/1).

Sharagdhar Samhita has explained 20 types of Krimi in Pratham Khand, seventh chapter. References of Snayuka Krimi (Guinea worm) and Vran Krimi are first seen in this Sharagdhar Samhita.

Valuable aspect of treatment with Rasoushadhi and Kashthoushadhi is well described for Krimi chikitsa in twentieth chapter of Ras Ratna Samuchchaya (R.R.S.21/223, pp.129).
Bhiashajya Ratnavali (Krumyadhikar pp.316-319) explained Rasa, Gandhak, Kashthoushadhi formulations and Pathya – Apathya in the management of Krimi.

**Conclusion**

Concept of Krimi is explained broadly in ancient Indian literature and Ayurvedic texts, in terms of their etymology, synonyms, classification, diseases caused due to it and their treatment. As described regarding worms in modern medical science, Krimi also manifest in any part of the body and causes multiple disorders. Krimi mainly grow in Kapha dominant sites and rapidly multiply in Kleda (grossly vitiated Kapha dosha) and Aam (undigested food). They also manifest and grow in Rakta dhatu, abode of Rakta dhatu, Pakwashaya, Purisha, Mutra and Yoni. Surprisingly, Krumi affecting mind are also explained in Sanskrit Encyclopedia, Shabdakalpadruma as Charu and Manohanan. Such a variety of Krimi are responsible for a range of diseases from helminthiasis, liver cirrhosis, acid-peptic disorders, skin diseases to various types of cancers like GI malignancies, gynecological cancers, leukemia, Hodgkin’s and Non-Hodgkin’s Lymphoma. Treatment of Krimi is explained in Charak Samhita as Apakarshana (Deworming), Prakruti Vighaat (medicines, food and lifestyle which restricts formation and growth of Krimi) and Nidan Parivarjan (avoiding causative factors of manifestation of Krimi). Moreover, chanting of special hymns for worship of Maruta, Megha, Agni, Surya, Vidyut and Jala is also explained as an effective management of Krimi in Vedas, which needs special attention in today’s raining incidences of epidemic diseases.

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