International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Integrative Approach of Ayurveda and Conventional Oncology in Cancer Management: A Review

Dr. Najnin Begum[1], Dr. (Prof.) Satyendra Kumar Tiwari[2]

[1]PG Scholar, Dept. of Panchakarma, GACH, Patna
[2]Professor & HOD, Dept. of Panchakarma, GACH, Patna

ABSTRACT

Cancer remains a major global health challenge despite significant advances in conventional oncology. Modern cancer therapies, including surgery, chemotherapy, radiotherapy, and targeted treatments, have improved survival rates; however, treatment-related adverse effects and the increasing prevalence of cancer, exploring additional treatment approaches has become important. Ayurveda, the traditional system of medicine of India, offers a holistic framework emphasizing disease prevention, immune enhancement, lifestyle modification, and restoration of the body's innate healing capacity. numerous Ayurvedic medicinal plants and formulations have demonstrated anticancer potential through the presence of bioactive phytochemicals, although standardized evidence-based treatment protocols are yet to be established. an integrative approach combining Ayurveda with conventional oncology may improve patient outcomes by enhancing quality of life, reducing treatment-related complications, and supporting overall health and well-being. Preventive Ayurvedic principles such as *Dinacharya, Ritucharya*, and *Achara Rasayana* may also contribute to cancer risk reduction and long-term health maintenance. Furthermore, scientific validation of Ayurvedic concepts through rigorous research may facilitate the development of new biomarkers and strengthen the evidence base for integrative cancer care. The current status, opportunities, challenges, and future prospects of integrating Ayurveda with conventional oncology to develop a patient-centered and comprehensive strategy for cancer management.

Keywords: Ayurvdea, Integrative Oncology, Cancer management, *Dincharya, Ritucharya, acharya rasyana*

Introduction

In the 21st century, cancer has emerged as a premier global health threat and ranks as the leading cause of mortality worldwide according to the World Health Organization. This growing health crisis is closely linked to contemporary lifestyle choices, including chronic stress, erratic daily routines, and the environmental consequences of fast-paced industrial development. Despite ongoing advancements and intensive research in modern medicine, a definitive, universal cure remains elusive. In contrast, the ancient system of Ayurveda offers a distinct perspective on interpreting and treating these complex malignancies. Rather than just treating immediate ailments, Ayurvedic medicine targets the root cause of the disorder. "You beat Cancer by how you live, why you live and in the manner in which you live." [1]

the interventional approaches are believed to be costly, mutilating with serious ill-effects and leading to residual morbidity and relapses.[2] These developments, along with initiatives undertaken by the World Health Organization (WHO), have significantly transformed the global approach to cancer care. According to Trimble et al. [3], Traditional, Complementary, and Integrative Medicine (TCIM) can serve as an important component of primary healthcare in low- and middle-income countries such as Brazil, Chile, and rural regions of India. Evidence from systematic reviews and meta-analyses indicates a steady rise in the use of Complementary and Alternative Medicine (CAM) among cancer patients, increasing from approximately 25% in the 1970s to nearly 49% after 2000. With its long-standing Ayurvedic tradition spanning over five millennia, India is uniquely positioned to contribute valuable insights and integrative approaches to the global management of cancer." Originating over five thousand yrs ago, Ayurveda represents a holistic and integrative medical tradition. The term itself translates to the "science of life," derived from the Sanskrit roots *Ayus*, signifying life, and *Veda*, which means to knowledge or wisdom.[4] The foundational literature of Ayurveda is primarily represented by three classical texts: the Charaka Samhita, which focuses on the fundamental concepts of Ayurveda and the practice of internal medicine,[5] the Sushruta Samhita, which extensively discusses surgical techniques and medical knowledge,[6] and the Ashtanga Hridaya, which presents a concise and systematic compilation of the teachings found in the earlier texts.[7] These comprehensive works provide detailed guidance on maintaining health through appropriate dietary practices, daily and seasonal regimens, and describe hundreds of medicinal plants along with numerous herbal preparations used for the management of various health conditions. This review aims to explore the current role of Ayurveda in cancer management and examine its potential future contributions in addressing the growing challenge of malignancies, which remain one of the most significant healthcare concerns of the 21st century. Ayurveda the ancient science of medicine has a great role in both prevention & management of so many modern diseases. so also, it has very effective measures in both prevention & management of deadly disease cancer. Supporting our body with ayurvedic principles, ayurvedic life style, food habits & ayurvedic treatments before, during and after chemotherapy will help us reverse the underlying cause of cancer, and strengthens our immune system to fight back the cancer & to gain victory upon it. Throughout the Western world the most common sites of malignant disease are the lung, large bowel and breast (see figure1).[8]

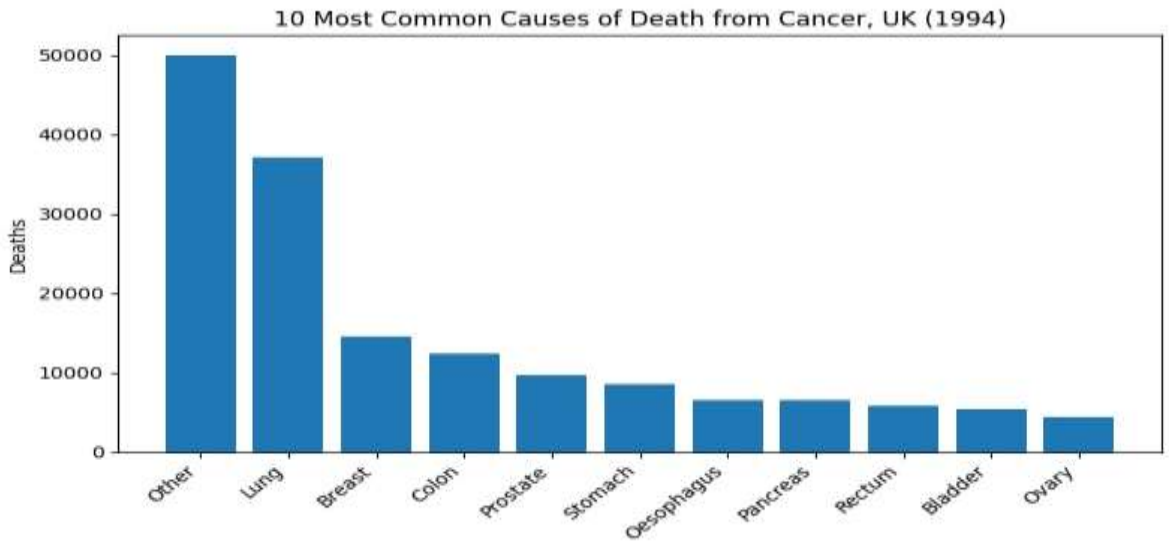

Figure 1:- the most common causes of death from cancer, united kingdom, 1994

Review of Literature

Evidence from several international review articles and meta-analyses suggests that Ayurvedic interventions may contribute positively to cancer care and supportive oncology practices.

Dr. J. L. N. Sastry's Introduction to Oncology in Ayurveda discusses numerous herbal drugs and compound formulations recognized for their potential anticancer activities. In Cancer: Myths & Realities of Cause and Cure, Dr. Manu L. Kothari analyses current global cancer care practices and identifies key shortcomings that need to be addressed to improve patient outcomes.

Dr. N. S. Mooskatayam, in his book Ayurvedic Treatment of Cancer, highlights the importance of a systematic and patient-centred approach in Ayurvedic oncology. He discusses the practical application of traditional Ayurvedic therapeutic principles at different stages of cancer, with treatment strategies tailored to the specific needs and clinical status of each patient.

Dr. T. L. Devaraj, in Cancer Therapy in Ayurveda, presents clinically validated treatment strategies for various organ-specific malignancies, emphasizing a combination of herbal interventions and lifestyle modifications as part of an integrative approach to cancer care.

Material and Methods

The present review was conducted using information obtained from classical Ayurvedic texts, national and international scientific journals, and publications authored by experts in oncology, integrative oncology, and Ayurvedic cancer care. Relevant data were also collected from official government websites and national archives to identify significant initiatives and policies related to the subject. In addition, publicly accessible interviews of leading oncologists and discussions available on online professional platforms were examined to gain further insights into current perspectives on cancer management. The analysis compared conventional cancer treatment approaches used independently with those combined with complementary or integrative therapeutic interventions. The primary outcomes assessed included tumour regression, patient survival, symptom control, immune system regulation, treatment-related adverse effects, and various measures of quality of life, including outcomes reported directly by patients.

Discussion

Pathophysiologic Basis of Neoplasms according to both Western medicine and Ayurvedic principles:

Neoplasia means abnormal new growth, which may be benign or malignant. Malignant tumours invade nearby tissues and often have the ability to metastasize to distant parts of the body, whereas benign tumours are confined to their site of origin and do not spread. Malignancy is characterized by the capacity of tumour cells to penetrate adjacent tissues, cross the basement membrane, gain access to the bloodstream, and colonize distant organs. The development of a neoplasm is a gradual process that occurs through successive changes in normal cellular functions. epigenetic modifications, once acquired, can be transmitted to subsequent generations of cells during mitosis without changing the DNA sequence. Instead, they affect how genes are expressed, thereby influencing cell behaviour and function.[9] According to Ayurvedic principles, diseases, including cancer, arise from imbalances in the doshas and disturbances in tissue equilibrium. These pathological changes are often associated with an individual's Prakriti (constitutional type), which influences susceptibility to disease.[10]

Pathophysiology of cancer in ayurveda

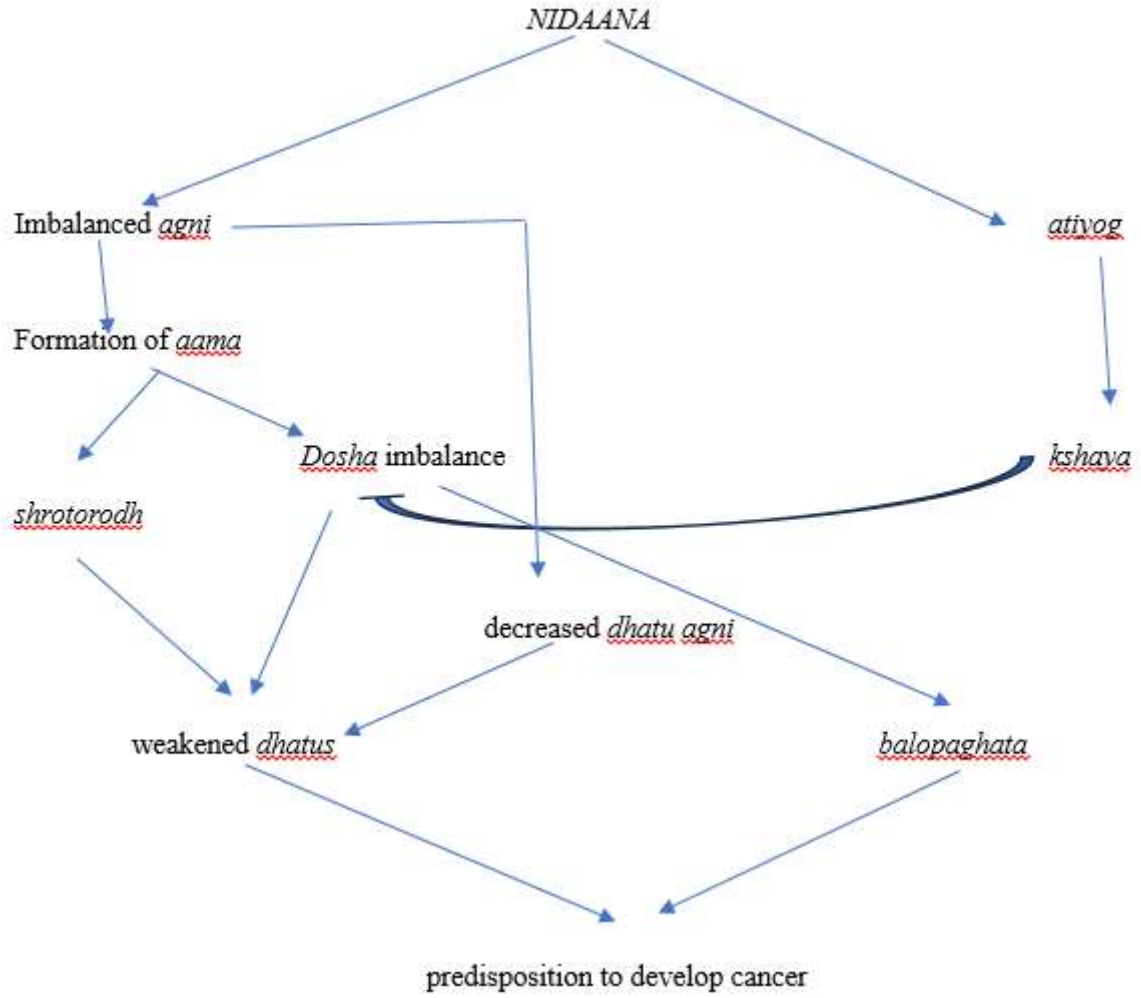

Figure 2: - pathophysiology of cancer in ayurveda

- *Nidana* are causes of a disease and include inherited, dietary, and lifestyle-related causes.
- *Agni* represents the digestive strength and metabolic rate of the body tissues.
- *Atiyoga* means chronic physical and psychological strain.
- *Ama* represents impurities and toxins in the body.
- *Kshaya* means degeneration and depletion of the body tissues.
- *Srotorhoda* means blockage of body channels, both physical and energetic.
- *Dosha* imbalance means an imbalance of *vata, pitta*, and/or *kapha. Dhatu Agni* is the metabolic rate of the *dhatus.*
- *Dhatus* are the body tissues.
- *Balopaghata* means altered immunity or impaired resistance to disease.

According to Ayurvedic principles, prolonged exposure to environmental toxins and other *Pitta*-aggravating factors may initiate the pathogenesis *(Samprapti)* of cancer. Elevated *Pitta* at the cellular level can induce micro-inflammatory changes, leading to impairment of *Pithara Agni* and *Pilu Agni*, the metabolic factors responsible for proper tissue formation. Dysfunction of these *Agnis* results in the development of abnormal or poorly formed tissues. *Vata*, being the principal active *Dosha,* contributes to the spread and progression of disease, including metastasis. Simultaneously, the *Tejas* aspect of *Pitta*

enhances the metabolic activity of malignant cells, while *Kapha* supports excessive growth and accumulation of tissue mass. According to Ayurveda, cancer is considered a *Tridoshaja* disorder resulting from the imbalance of all three *Doshas—Vata, Pitta,* and *Kapha.* The combined vitiation of these *Doshas* contributes to the initiation, progression, and spread of the disease.[11]

Sopha is a condition which is characterised by the features like *Grathita* (hard swelling), *Sama / Vishama* (regular or irregular), superficially), *Twak Mamsa Sthayi* (located *Sharira Ekadeshasthit* (localised lesion).[12] ***Vrana-Sopha*** may gradually progress into conditions such as *Vidradhi* and *Arbuda*. Persistent inflammation is known to contribute to the development of various cancers, while established tumours can further promote and sustain inflammatory reactions in the surrounding tissues, supporting their growth and spread. Therefore, regulating inflammatory mechanisms has become an important approach in cancer management.[13] *Dashamoola* is a formulation for *Shopha*, exhibiting anti-inflammatory, analgesic, and anti-platelet activities similar to aspirin.[14] *Haritaki* and *Punarnava* are commonly used in the management of *Shopha. Haritaki* exhibits anti-inflammatory effects by suppressing inflammatory mediators, while *Punarnava* possesses anti-inflammatory, analgesic, antipyretic, and anti-ulcer properties. [15,16] *Srotoshodhaka* and *Shothahara* herbs are reported to possess potential anticancer activities.[17]

Within Ayurvedic literature, the term ***Arbuda*** serves as the primary correlation to the modern concept of cancer. In Ayurveda, ***Granthi*** denotes a basic, knot-like tumour or swelling. Conversely, ***Arbuda*** refers to a highly destructive and malignant growth that expands drastically in size, severely damaging the body and endangering the patient's survival. according to *Sushruta*, both *Arbuda* and *Granthi* are pathological conditions that require operative intervention.

When *Arbuda* is appearing at pre-existing site or nearby primary growth it is called as ***Adhyarbuda*** **(recurrence)**, whereas when a couple of similar types of growth occurring at different places, following one after another it is called ***"Dwairbuda"*** **i.e. metastasis**. Acharya *Sushruta* describes that if any part of an *Arbuda* is left behind after surgery, it will relapse violently and rapidly, leading to a fatal outcome as destructive as fire.[18]

According to Ayurvedic principles, the accumulation of toxic metabolic byproducts, known as *Ama*, clogs the body's essential microchannels (*Srotas*). This blockage disrupts the delivery of critical nutrients to bodily tissues (*Dhatus*), triggering cellular inflammation, tissue damage, and a breakdown of internal equilibrium (homeostasis).[19] Consequently, *Ama* is recognized as the foundational trigger for numerous pathological conditions.

side effects of the existing conventional cancer therapies:[20]

Table 1. Rank order of the distressing side-effects of chemotherapy

Symptoms	rank
Being sick (vomiting)	1
Feeling sick (nausea)	2
Loss of hair	3
Thought of coming for treatment	4
Length of time treatment takes at clinic	5
Having to have a needle	6
Shortness of breath	7
Constantly tired	8
Difficulty sleeping	9

Affects family or partner	10
Affects work/home duties	11
Trouble finding somewhere to park	12
Feeling anxious or tense	13
Feeling low, miserable (depression)	14
Loss of weight	15

understanding of research methodology, combined with a strong scientific approach and fundamental knowledge of integrative oncology, is essential in the current healthcare. Considering the complex nature of cancer pathophysiology, Ayurvedic practitioners currently fulfil two major roles:
First, they may offer supportive therapy alongside conventional treatments to alleviate the adverse effects of chemotherapy and radiotherapy and improve patients' quality of life.
Second, they may provide palliative care to individuals with advanced cancer who are unable to access standard treatments, are unsuitable candidates for such therapies.

Ayurveda for cancer and treatment toxicity:
All conventional treatments like *Samana* (Palliative) and *Sodhana* (Purificatory) treatments considering its suitability (Individualized treatments).

- Symptomatic treatments.
- Empirical and home remedies.
- Life style modifications.
- Dietary alterations.
- Relaxations techniques like *Yoganidra,* breathing exercises and meditations**.**

According to Ayurveda, cancer management focuses on *Amapachana* (removal of *Ama*), *Agnidipana* (enhancing metabolic activity), *Shamana* (palliative treatment), *Shodhana* (purification), and *Lekhana Chikitsa* (reducing abnormal growths). Individualized *Pathya Ahara* (appropriate diet) and a healthy lifestyle are considered essential for maintaining the balance of *Dosha, Dhatu*, and *Mala* and improving patient outcomes.
Ayurvedic treatment aims to restore tissue metabolism, remove accumulated toxins, strengthen immunity, and improve quality of life. *Shamana* therapy is generally preferred initially, especially after chemotherapy or radiotherapy, while *Shodhana* based on the patient's condition and *Prakriti*.
Several Ayurvedic herbs and formulations have demonstrated potential anticancer and immunomodulatory effects. *Rasayana* drugs such as *Guduchi, Ashwagandha, Yashtimadhu, Amalaki,* and *Bhallataka* are reported to enhance immunity, support cellular protection, reduce treatment-related side effects, and improve overall well-being in cancer patients.
Amalaki rasayana: Healthy ageing by DNA damage repair & increased telomerase activity - **Human model**
establishing an AYUSH OPD or ***Panchakarma*** unit in a conventional cancer centre does not adequately address the operational demands of integrated oncology services.

Table 2. *Panchakarma* in cancer

panchakarma	*Vitiated doshas*	Type cancer
Vamana	*kapha*	CA Throat, CA Lung, CA Breast, Melanoma skin. Hodgkins's disease
Virechana	*pitta*	CA Duodenum, CA Pancreas CA Liver
Basti	*vata*	CA Rectum, CA Cervix, CA Uterus, CA Ovaries, CA Testes, Bone metastasis
Nasya	*Vata, kapha*	CA Nasopharynx, CA Brain
Raktmokshana	*pitta*	CA Liver, Leukaemia

Figure 3: - Advantage of ayurvedic medicine over conventional medicine

Table 3. Role of medicinal herbs in cancer:

Botanical name	**Major bioactive compound**	**Key molecular target**
Curcuma longa	curcumin	NF-KB, STAT3, COX-2, TNF-a, VEGF; induces apoptosis and inhibits angiogenesis

Withania somnifera	Withaferin A, withanolides	p53 activation, NF-KB inhibition, ROS-mediated apoptosis
Piper nigrum	piperine	Inhibition of metastasis, enhancement of drug bioavailability, NF-KB modulation
Phyllanthus emblica	Gallic acid, Ellagic acid, Emblicanin	Antioxidant, p53 activation, inhibition of tumour growth
Azadirachta indica	Nimbolide, Azadirachtin	PI3K/Akt pathway inhibition, caspase activation, apoptosis

Conclusion

The exact cause of cancer is often not known. Ayurveda provides a different way of understanding cancer, its treatment, side effects, and supportive care. Combining Ayurvedic knowledge with modern medicine help to improve cancer management. Since Ayurvedic treatments use multiple herbs and work on the body as a whole, studying only one active ingredient not show their full benefits. Therefore, Ayurvedic medicines and principles should be explored using modern scientific methods to better understand their role in cancer care. A holistic approach to cancer research helps to identify new indicators of health and disease, leading to improved treatment strategies. Along with medical treatment, nutrition, *yoga, pranayama,* and psychological counselling should be included at every stage of cancer care. Integrating affordable traditional systems such as Ayurveda with modern healthcare, while encouraging healthy lifestyle habits, enhance cancer management and improve patient well-being. Cancer is a complex disease. In Ayurveda we can consider cancer as mainly *Tridoshaja Vyadhi*. to break its complexity, we have to understand cancer based on Ayurvedic basic principles like *Dosha, Dhatu, Mala, Agni, Ama, Shrotas, Rogamarga* etc, after having understood the deadly disease cancer classically, then it has to be treated with some specific ayurvedic principles.

References

1. Singha A, Chaudhary R, Sharma R. Conquering newer arenas like Cancer in Ayurvedic Healthcare: Can we prove our Strength? J Ayu Int Med Sci. 2025 Feb;10(2):136-147. Available from: https://jaims.in/jaims/article/view/4022/
2. Horneber M, Bueschel G, Dennert G, Less D, Ritter E, Zwahlen M. How many cancer patients use complementary and alternative medicine: A systematic review and meta-analysis. Integr Cancer Ther. 2012;11(3):187–203. [Crossref][PubMed] [Google Scholar]
3. Trimble EL, Rajaraman P. Integrating traditional and allopathic medicine: An opportunity to improve global health in cancer. J Natl Cancer Inst Monogr. 2017;2017: Igx011. [Crossref][PubMed][Google Scholar]
4. Arnold JT. Integrating ayurvedic medicine into cancer research program's part 1: Ayurveda background and applications. J Ayurveda Integr Med. 2023 Jan-Mar;14(1):100676. doi: 10.1016/j.jaim.2022.100676.
5. Sharma PV. Caraka Samhita. Varanasi: Chaukhambha Orientalia; 2008.

6. Sharma P. Sushruta Samhita. Varanasi: Chaukhamba Bharati Academy; 2000.
7. Murthy KRS. Ashtanga Hrdayam. Varanasi, India: Chowkhamba Krishnadas Academy; 2001.
8. Smyth JF. Principles of oncological and palliative care. In: Haslett C, Chilvers ER, Hunter JAA, Boon NA, editors. Davidson's Principles and Practice of Medicine. 18th ed. Edinburgh: Churchill Livingstone; 1999. p. 1050-51.
9. Dhruva A, Hecht FM, Miaskowski C, Kaptchuk TJ, Bodeker G, Abrams D, Lad V, Adler SR. Correlating traditional Ayurvedic and modern medical perspectives on cancer: Results of a qualitative study. J Altern Complement Med. 2014 May;20(5):364–70. doi: 10.1089/acm.2013.0259. Epub 2013 Dec 17. PMID: 24341342; PMCID: PMC4011424 [Crossref][PubMed][Google Scholar]
10. Sharma and Chandola, 2011; Patwardhan et al., 2015).
11. Dhruva A, Hecht FM, Miaskowski C, Kaptchuk TJ, Bodeker G, Abrams D, Lad V, Adler SR. Correlating traditional Ayurvedic and modern medical perspectives on cancer: Results of a qualitative study. J Altern Complement Med. 2014 May;20(5):364–70. doi: 10.1089/acm.2013.0259. Epub 2013 Dec 17. PMID: 24341342; PMCID: PMC4011424 [Crossref][PubMed][Google Scholar]
12. Panda AK, Tripathy R. Concept of Sopha (inflammation): A critical study. Int J Res Granthaalayah. 2020 Aug;8(8):15–23. doi: 10.29121/granthaalayah. v8.i8.2020.692 [Crossref] [PubMed][Google Scholar]
13. Munn L. Cancer and inflammation. Wiley Interdiscip Rev Mar;9(2): doi:10. Syst Biol 1002/wsbm.1370 [PubMed][Google Scholar] Med. 2017 [Crossref]
14. Parekar RR, Bolegave SS, Marathe PA, Rege NN Experimental evaluation of analgesic, antiinflammatory and anti-platelet potential of Dashamoola. J Ayurveda Integr Med. 2015;6(1):11–18. doi: 10.4103/0975-9476.146565 [Crossref] [PubMed][Google Scholar]
15. Bag A, Bhattacharyya SK, Pal NK, Chattopadhyay RR. Anti-inflammatory, anti-lipid peroxidative, antioxidant and membrane stabilizing activities of hydroalcoholic extract of Terminalia chebula fruits. Pharm Biol. 2013;51(12):15151520. [Crossref][PubMed][Google Scholar]
16. Gharate M, Kasture V. Evaluation of antiinflammatory, analgesic, antipyretic and antiulcer activity of Punarnavasava: An Ayurvedic formulation of Boerhavia diffusa. Orient Pharm Exp Med. 2013; 13:121–126. doi: 10.1007/s13596-012-00813 [Crossref][PubMed][Google Scholar]
17. Agarwal B, Weesasinghe P, Garodia P, Bhat ID. From traditional Ayurvedic medicine to modern medicine: Identification of therapeutic target for suppression of inflammation and cancer. Expert Opin Ther Targets. 2006;10(1):87–118. [Crossref] [PubMed][Google Scholar]
18. Ram Manohar P. Descriptions and classification of cancer in the classical Ayurvedic texts. Indian J Hist Sci. 2015;50(2):187–195. [Crossref][PubMed] [Google Scholar]
19. Srinivasulu M. Concept of Ama in Ayurveda. Choukhambha Sanskrit Series Office; 2010. . [Crossref][PubMed][Google Scholar]
20. Smyth JF. Principles of oncological and palliative care. In: Haslett C, Chilvers ER, Hunter JAA, Boon NA, editors. Davidson's Principles and Practice of Medicine. 18th ed. Edinburgh: Churchill Livingstone; 1999. p. 1049-1059.