

An International Journal of Research in AYUSH and Allied Systems

Review Article

NEED OF INTEGRATED APPROACH AGAINST CANCER TO IMPROVE QUALITY OF LIFE INSIGHT OF AYURVEDA

Kiran Tawalare^{1*}, Ganesh Hedaoo², Snehvibha Mishra³, Ravindra Dhimdhime⁴, Gopal Sharma⁵, Kalpana Tawalare⁶

*1Assistant Professor, ²P.G. Student, ³Associate Professor, Department of Kriya Sharir, Shri Ayurved College, Nagpur.
⁴Professor, Department of Kriya Sharir, Govt. Ayurved College, Osmanabad.

⁵Professor, Department of Rachana Sharir, Govt. Ayurved College, Nagpur.

⁶Assistant Professor, Dept. of Rachana Sharir, Shri Ayurved College, Nagpur.

KEYWORDS: Ayurveda, *Arbuda,* Cancer, *Vihar, Granthi, Satva, Yoga.*

ABSTRACT

Being leading cause of death in economically developed countries and second leading cause of death in developing countries cancer become giant problem. In India, 155863 new cases will be detected by 2015 and death would be 75957 hence, there is an increase in incidence as well as mortality rate. Many efforts are taken to control the disease by scientist and health organization, but still, it is spreading swiftly. Available treatment of cancer can prolong the survival of patient, but may cause severe adverse effects and obliterated the quality of life. Even experts believe that role of chemotherapy is complex issue at the end of life. Thus ray of hope turns toward palliative care to treat the cancer. With an aim to increase the life quality of the cancer patient, author consulted the classic text of Ayurveda. It was found that the disease resembling with cancer codified in the classic text of Ayurveda in the form of Granthi and Arbuda with Shodhan (curative) and *Shaman* (palliative) treatment and regimen to follow *Aahar*, *Vihar*, Dincharya, Rutucharya, Sadvritta, Yoga, and Satvavajaya treatment. Integration of modern and holistic method of treatment will definitely prove boon for cancer patient and will help them to enjoy meaningful life.

*Address for correspondence Dr. Kiran Tawalare Assistant Professor, Department of Kriya Sharir, Shri Ayurved Mahavidyalaya, Nagpur Email:

drkirantawalare@gmail.com Contact: 09226209022

INTRODUCTION

In India the international agency for research on cancer estimated indirectly that about 635000 people died from cancer in 2008 representing about 8% of all estimated global cancer death and 6% of all death in India.^[1] Cancer is not just one disease, but a large group of almost 100 diseases degrading patient slowly physically mentally and economically, making their life miserable. Two main characteristics of cancer are uncontrolled growth of the cells in the human body and the ability of these cells to migrate from the original site and spread to distant sites. If the spread is not controlled, cancer can result in death. Part of the problem is that the malignant cells are living in and invading normal tissue around it. While some of these tumors can be fairly well circumscribed and isolated, some are quite invasive and spread throughout various parts of the body, making their removal quite difficult. The goals of treatment for cancer are generally to reduce the amount of cancer cells in the body, to zero ideally. However, this is often easier said than done. Many of the efforts are being made to control the disease by doctors, scientists, and health organizations but still cancer is spreading very fast.

In general, three major forms of cancer treatment have evolved; often times used in some

combination, including surgery, chemotherapy and radiation treatments. Sometime due to this treatment, patient are suffering from many side effects which are very dreadful than actual symptoms of cancer. In addition to these, many patients are offered Ayurveda treatments either aimed at controlling the tumor or at improving the symptoms and quality of life of the patient.

Classical Ayurveda literature has given ample indication that cancer was known to ancient Ayurveda physician. Cancer definitely is not a modern disease; Aacharya described the cancer in the name of Arbuda and *Granthi*. It is a disease with the involvement of three Doshas (Vata, Pitta, Kapha) and Mansa, Rakta, Medas dhatu as principal Dushyas. Ayurveda helps cancer patients to improve their quality of life and getting better curative effect. Aggravated Doshas causing vitiation of the muscle tissue produce muscular swelling, anywhere in the body which is round, static, with mild pain, big in size, deep rooted, growing slowly and not ripening this disease is called as *Arbuda* (~malignant tumor).^[2] Vata and other Doshas associated with Kapha, getting aggravated, vitiate the muscle, blood and fat tissue and produce a round bulged and hard swelling is called as *Granthi* (~benign tumor).^[3] Aacharya Charaka distinguishes *Granthi* from *Arbuda* by the presence of a capsule.^[4] According to certain thoughts among the Ayurvedic physician, pathology of cancer can be correlated with the following disease *Dustashotha*, *Dustagranthi*, *Dustaviserpa*, *Dustanadivarana*, *Dustamansa pradosaj vikara*, *Pandu* (anaemia), *Rakatajkrimi*.^[5]

The object of Ayurveda is to protect health of the healthy persons and to cure the disease of diseased one.^[6] Avurveda treatment plays an important role in cancer. It is not only reducing symptoms but also improve quality of life. During chemotherapy and radiotherapy patients faced many side effects, principles of Ayurvedic treatment can help the patient to reduce side effect Hence, there is an urgent need to communicate precious holistic knowledge of Ayurveda to the scientific world. This will lead to create awareness about palliative concept of Ayurveda in scientific community. Ayurveda has the potential to become an important arm in standard care of cancer treatment. The ancient wisdom of Ayurveda needs to be explored in a scientific world. The doctors, Vaidyas, researchers, and scientists have to work together to generate various level of evidence to improve the quality of life in cancer patients and make them peaceful while moving toward end.

Aims

-To state utility of palliative treatment in the patients of cancer.

-To assess the significance of integrated cancer treatment to improve quality of life.

Materials And Methods

Classical texts of Ayurveda viz. *Charaka Samhita, Sushruta Samhita, Ashtanga Sangrah and Ashtanga Hridaya* were consulted as research references, to know the line of treatment in ancient system Ayurveda. Evidence based resources as journals, books, and data based information from various search engines were referred for recent information. Critical analysis of available literature was done.

DISCUSSION

Modern view of cancer

Habits like smoking and alcohol will lead to increase in the chronic disease especially as cancer. Tobacco consumption in term of chewing tobacco or smoking will account for 50% of all cancers. Clear factor causing cancer are processed meat, dairy products and alcohol. Obesity is a clear risk factor for cancer.^[7] Chemotherapy and radiotherapy are highly toxic and both damage adjacent healthy cells. Side effect may be acute or late. Nausea, vomiting, diarrhea, alopesia, mucositis, constipation are mentioned as side effects of chemotherapy. Fatigue, anorexia, nausea, vomiting, sleep disturbance, alteration in taste, headache, constipation, dry skin are enlisted as side effect of Radiotherapy. Late complication includes pharyngitis, esophagitis, laryngitis, persistant dysphagia, fatigue, hepatotoxicity, infertility.^[8] Sometime death may occur due to

- Infection due to prolonged bed rest and depression of immune system by cytotoxic drugs and irradiation by X- ray or radioactive isotopes used in treatment.
- Organ failure tumor may destroy to much tissue that an organ cannot function, severe damage to vital organs such as lungs, brain, liver and kidneys are common cause of death.
- Carcinomatosis When there is wide spread metastatic disease associated with cachexia, severe physiological and biochemical disruption follows causing death.
- Hemorrhage This may occur when a tumor grows into and ruptures the wall of a vein or artery, the most common sites are gastrointestinal tract, brain, lungs and peritoneal cavity.^[9]

Due to side effects of conventional cancer therapy, the complementary and alternative medicine has attracted the view of researcher and medical practitioners. Assessing above major side effects of chemotherapy are looked through an Ayurvedic perspective; it appears that they are symptoms of *Raktadusti* and manifestation of aggravated *Pitta dosha*. The compendia helps doctor and patient suffering from cancer to combat serious chemo-radio therapy related side effects through simple but effective science based Ayurveda remedies. These described treatments are commonly available and these Ayurveda based solution act as an important adjuvant to chemo-radio therapy and enhance the quality of life of cancer patients.

Ayurveda can full fill the expectations of such patients by adding years in their life and improve quality of life. It is observed that patient take different decisions about chemotherapy near the end of life such treatment can prolong survival or reduce symptoms but may cause severe adverse effects and also prevents the patient from engaging in meaningful life. Today even experts believe that the appropriate role of chemotherapy in the end of life is a complex issue. Thus the role of palliative care is very important in such a case during chemotherapy and radiotherapy. Actually while treating the patient the physician should aim to improve patient's quality of life and relieve symptoms and increase the survival by many folds.

Cancer insight of Ayurveda^[10]

Classical text of Ayurveda define the causes of cancer as fallow.

- Aahar (food) Ati katu ras (pungent), Ati amla ras (sour), Ati mudhur ras (sweet), Ati lavan ras (salty), Ati ushna (hot), Ati sheeta (cold), Ruksha aahar (dry), Virudhaashan, Adhyashan, Paryushitaahar.
- *Vihar* (daily routine) *Vega vidharan* (suppression of urges), *Diwaswap* (day sleep), *Ratrijagran* (night awaiking), *Vyavasaya* (occupation).
- *Manas* (mental) *Mansik santap* (tension), *Krodha* (anger). By consuming all above *Hetu* Vitiation of *Tridosha* occurs which lead to *Jatharagnimandya* and *Aamotpatti*. This *Apachit dhatu aam* vitiates the other *Dhatu* of body and developed the *Arbuda*.^[11]

Aahar (food) - The diet plays special and importance role in country like India. We had a predominantly plant based diet. Indian spices not only add the test aroma, flavor but also consumption of spices provides infinite health benefits. Systematic research revealed that following spices posses anti cancerous activity.

- 1. *Kesar* (*Crocus sativa*) crocetin a carotenoid has anti tumor activity.^[12]
- 2. *Haridra* (*Cuecuma longa*) curcumin has proapoptotic and anti proliferative actions.^[13]
- 3. Lavanga (Syzygium aromaticum) eugenol.^[14]
- Lashuna (Allium sativum) organosulphur compounds has cancer preventive and tumor suppressive effect.^[15]
- 5. *Methika* (*Trigonella foenum*) seed of fenugreek are cytotoxic in vitro to cancer cells.^[16]
- 6. *Sunthi (Zinzibar officinnale)* extract has significant growth inhibitory effects in a spectrum of prostate cancer cells.^[17]
- Kali marich (Piper nigrum) piperine found to antioxidant, anti inflammatory and anti cancer activities.^[18]
- 8. *Jatiphala (Myristica fragrans)* methanol extracts are effective in human leukemia T cells.^[19]

Vihar (daily routine) - It contains Dincharya, Rutucharya and Aachar rasayan.

- 1. Dincharya Aacharya explained how to follow a good conduct in a whole day. Brahma Muhurte utthithate (early morning wake up before sun rise), Anjan karma, Dhoompan, Natsya, Dantavishodhan, Gandush and Kawal, Karna tarpan, Sneha abhyanga, Sharir parimarjan.^[20]
- 2. *Rutucharya* or conduct according to season there are six *Rutu* according to Ayurveda i.e. *Shishir, Vasant, Grishma, Varsha, Sharad, Hemant.*^[21]
- 3. *Adharaniya vega* (non suppression of urges) for being healthy one should not suppress the natural urges there are thirteen non suppressive urges.^[22]
- 4. Aachar rasayan The concept of Rasayan has been evolved for improving the quality of life through various specialized procedures. Rasavan deals with all angles of health i.e. physical, mental, social, spiritual aspect. Aachar rasayan is Adravyabhoot type of *Rasayan* in which no pharmaceutical measure is taken under consideration. It increases immunity of body and make mind fresh which is an essential factor for healthy life. With the knowledge of literature one will restrict himself from *Pragyaparadha* which is a factor among three major contributors, for ill health. Some factors of Aachar rasayana given in text are free from anger, free from alcohol consumption, cleanliness, balance sleep, spiritualism etc.^[23]

Yoga - Happiness and misery arise due to conduct of the *Atma* (soul), *Indriya* (sense organs), *Mana* (mind) and *Indriya vishaya* (sense objects) but when the mind is steadily concentrated to the self, both cease to exist due to non initiation and a super natural power comes forth

in the person, this state is known as yoga by the expert. In India, approximately 56% of cancer patient took recourse to alternative therapies, among these, voga was the third most commonly accepted therapy.^[24] Emotional suppression become mandatory to carry on with life this result in chronic imbalance that disturb homeostasis and promote cancer. It can be used for management of side effect, reduction of cost involved, avoid poor quality of life, minimize psychological ill health and reduce recurrences. Aasan, pranayam, meditation etc. are techniques to help the patient arrive at an internal mastery over the mind and *Prana* that help in correcting the imbalance.^[25] A physical level of these practices that include Yoaik kriva, the cleansing of body, endotoxins (*Aama*) and molecular toxins such as free radical levels corrects the life style. All practice in yoga allows the mind to rest in a state of inner wakeful sleep. A single positive thought has the ability to reverse the imbalance at all levels.^[26] Deep inspiration breath prove beneficial in locally advanced breast cancer. [27]

Panchkarma Therapy - It is also called as process of cleansing, detoxification. Incompatibility in food, life style, chemo-radio therapy and hormonal therapy result in vitiation of *Doshas* mainly *Pitta dosha* in the body, such excessive vitiation of *Doshas* have to be eliminated from the body through the procedures like *Vaman, Virechan, Basti, Nasya* and *Raktamokshana*. Thus *Panchkarma* also minimize the future risk of cancer by purifying the body system and it can also use as preventive majors to individuals with family history of cancer. Sesame oil which is used in *Panchkarma* for massage and *Basti* has also been shown to have anti neoplastic properties.^[28]

Shaman - Method of controlling, preventing and curing the disease by using medicines, foods and activities is called as *Sansaman*.^[29] It is also called as palliative treatment. Cancer patients face side effects of chemo therapy, radiotherapy hormonal therapy, generally resembling to Pittapradhan tridosha prakopa. Hence Shaman chikitsa play an important role, Triphala, Ashwaqandha etc. are main Shamak dravva. Recent invention has proved that it has antioxidant property, it enhances the immune function, it also increased the reactive oxygen species in breast cancer cells. *Aswagendha* has been shown to exhibit antioxidant effect in the brain and have a tranquilizing effect on the central nervous system in animals. Root of the plant have cytotoxic properties against H- 460 also Ashwagandha increase cytoxic T Lymphocyte production.^[30] The Prime medicine used in cancer treatment are as Bacopa monniera. *Glycyrrhiza* glabra, Ocimum sanctum, Terminalia chebula Asparagus racemosa, Hydrocotyle asiatica, Nordostachys jatamansi, Elettaria cardamomum, Tribulus terrestris.^[31] A report of ACTREC (Advanced Centre for Treatment Research and Education in Cancer) and CCRAS (The Central Council for Research in Ayurvedic Sciences) anti cancer and antitumor properties of indigenous medicinal plants extract in ethyl alcohol and tested to measure their cytotoxicity against tumor Arka (Calatropis procera) and Bhallataka (Semicarpus anacardium) appeared to have greatest cytostatic activity. Other herbal plants having anti cancerous activity are - *Plumbago rosea*, *Withania* somnifera, Semicarpus anacardium, Achyranthes aspera, Saraca ashoka, Hemidesmus indicus, Pandanus odoratissimus, Tinospora cordifolia, Commiphora mukul.^[32]

Satvavjaya treatment - It is also called as Aaswasan chikitsa. It is used as psychological therapy. Patient with cancer have to face treatment like chemotherapy and radiotherapy. Side effects of this therapy leads to patient fatigue, pain and permanent impairment of several organ system, which make patient enable to perform the daily routine activity. Emotional stress regarding diagnosis of cancer and its treatment also makes patient fearful. Fear of recurrence produce physical and psychological impairments result in depression, adjustment disorder, anxiety, mood disturbance, sadness, confusion and fear of future. Patient have to face financial stress due to lack of inadequate health insurance policy, loss of jobs and no support from the health care system.^[33] In such a case many of the preplanned situations are to be generated by physician and surrounding people so as to raise level of confidence in the patient and restraint the patient's mind from unwholesome objects. In such a situation recitation of mantras, auspicious act, an oblations, boost patients mind to cope the situation.

Rasayan Therapy - It is also called as rejuvenation therapy. Rasayana means the way for attaining excellent rasa and other *Dhatus*, from this type of therapy one can attain longevity (Dirghayu), memorv (Smruti). Intelligence (*Medha*), freedom form disorders (*Aarogya*), youthful age (Tarunam vaya), excellence of luster, complexion and voice. This therapy also attains optimum strength of physique and sense organs and respectability. This type of treatment provide strength to *Saptadhatu* which will able to make patient fight against disease also the therapy restrict the disease spreading and combat the side effects of chemo therapy and radio therapy. The drug use as a Rasayana are Triphala, Bhalltaka, Ashwagandha, Satavari, Suvarna bhasma, Hirak bhasma, praval bhasma.^{[34][35]}

Sadvrutta (code of good conduct) - *Sadvrutta* are the rules of conduct to promote his own well being. it should be followed in variably and cautiously. The essentiality of *sadvratta* is to prevent the exogenous disease (*Aagantuj vikar*). *Sadvrutta* mentioned in Ayurveda text one should put on auspicious herbs, one should wash twice a day, one should clean excretory passage, shaving, nail cutting, should apply oil to head, ear, nose and feet daily, should have presence of mind even in difficult circumstances should perform religions sacrifices, should be self controlled, free from anxiety, fearless, be truthful & peaceful etc.^[36]

Naisthiki Chikitsa - This is supreme treatment which is devoid of allurement. Allurement is the greatest cause of misery. Abode of miseries and renunciation of all allurements eliminates all miseries. This *Dharmic kriya* leads to peaceful mind and ultimately turns in harsh (joy).^[37]

CONCLUSION

In case of cancer, etiology, prognosis and line of treatment is not satisfactory. Side effects of chemotherapy occur in patients of cancer and quality of life decreases. Hence accepting the limitation of all pathies, integrated approach to fight against cancer should be adapted. Application of principles of Ayurveda as *Aahar* (food), *Vihar* (routine), *Yoga, Panchakarma, Samshaman, Satwavajaya, Rasayan* therapy, *Satvrutta, Naisthiki chikitsa* with modern treatment will definitely prove boon for them to improve quality of life while moving towards the end.

REFERENCES

- Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin D, Estimates of worldwide burden of cancer in 2008; GLOBOCAN 2008 international journal of cancer 2010;127.
- Sushruta, Sushruta Samhita, Nidana Sthana, Granthi-Apachi-Arbuda-Galaganda nidan Adhyaya, 11/13-14, translated by Shrikantha Murthy KR. Vol - 1. Chaukhambha Orientalia Varanasi, 2008;534
- 3. Ibidem. Sushruta Samhita, Nidana Sthana, Granthi-Apachi-Arbuda-Galaganda nidan adhyaya 9/3. 532p
- 4. P Ram Manohar. Description and classification of cancer in the classical Ayurvedic text. Indian Journal of Histry of Science. 50(2);2015:187-189.
- 5. Prof Dr. Arun Jamkar,Vd. Shewta Telang -Choudhary,Vd. Sharmali Suryavanshi and Vd. Pradip Awale. Cancer and Ayurveda. Feb 2015 Rasamruta.
- 6. Agnivesha, Charaka, Dridhabala, Charak Samhita, Sutra Sthana, Dashmahamuliya adhaya, 30/26, edited by Sharma PV, Reprint ed. Chaukhambha Orientalia, Varanasi, 2011;240
- 7. Hernando requejo o, rubio Rodriquez m c. nutrition and cancer.
- Metri K, Bhargav H, Chowdhury P, Koka P S, Ayurveda for chemo-radiotherapy induced side effects in cancer patients. J Stem Cells 2013;8(2):115-29. doi: jsc.2014.8.2.115
- 9. Book Ross and Wilson. Anne Waugh, Allison Grant, tenth edition; chapter 3 The cells, tissue and organization of the body;2006:53.
- 10. Book Sadanand Sardeshmukh. Caner introduction, causes of cancer, first edition, Kodoli;2002.
- Venil N. Sumantran and Girish Tillu, "Cancer, Inflammation, and Insights from Ayurveda," Evidence-Based Complementary and Alternative Medicine, vol. 2012, Article ID 306346, 11 pages, 2012. doi:10.1155/ 2012/306346.
- 12. Gutheil WG et al, Kansas city veterans affairs center, 4801 Linwood Boulevard, Kansas city, MO64128, USA. Biotechnol 2011 APR 5.
- 13. Wilken R,Vena MS,Wang MB, Srivatsan ESO. Curcumini A review of anti cancer properties and the therapeutic activity in head and neck squammus cell carcinoma. mol cancer, 2011 feb 7:10:12 pmid:21299897
- 14. Jaganathan SK1, Mazumdar A, Mondhe D, Mandal M. Apoptotic effect of eugenol in human colon cancer cell lines. Cell Biol Int. 2011 Jun;35(6):607-15. doi: 10.1042/CBI20100118.

- 15. Donald M, Dale R. Riggs, The potential application of allium sativum (Garlic for treatment of bladder cancer. http://www.sciencedirect.com /science/article/pii/50094014305702433[1.12.2014]
- 16. Shabbeer S, Sobolewski M, Anchoori RK, Kachhap S, Hidalogo, Jimeno A, Davidson N, Carducci M, Khan SR, Fenugreek a natural occurring edible spice as an anti cancer agent cancer biology ther. 2009 Feb (8)3:2728.
- 17. Karna P, Chagani S. Gundala SR, Rida OC, Asif G, Sharma V, Gupta M V, Aneja R. Benifits of whole ginger extract in prostate cancer. brj nutr 2011 Aug 18:1-12.
- Liu y et. al, Inhibitory effects of black piper extracts and compounds on human tumor cell proliferation, cyclooxygenase enzymes, lipid peroxidation and nuclear transcription factor-kappa-B 'Natural product communications 5,8;2010:1253
- Chirtathaworn C, Kongcharoensuntorn W, Dechdoungchan T, Lowanitchapat A, Sanguanmoo P, Poovorawan Y, Myristica fragrance Houtt Methanolic extract induces apoptosis in a human leukemia cell line through SIRT 1 m RNA down regulation J med assoc Thai. 2007 Nov;90(11):2422-8.
- Agnivesha, Charaka, Dridhabala, Charak Samhita, Sutra Sthana, Matrasitiya Adhyaya 5, edited by Sharma PV, vol 1, Reprint ed. Chaukhambha Orientalia, Varanasi, 2011;33-39p
- 21. Ibidem. Agnivesha, Charaka, Dridhabala, Charak Samhita, Sutra Sthana, Tasyashitiya Adhayaya 6
- 22. Ibidem. Agnivesha, Charaka, Dridhabala, Charak Samhita, Sutra Sthana, Navegandharaniya Adhayaya 7
- Ibidem. Agnivesha, Charaka, Dridhabala, Charak Samhita, Chikitsasthana Ayurvedsamuthaniya Adhaya 1/4/30-35, edited by Sharma PV, vol 2, Reprint ed. Chaukhambha Orientalia, Varanasi, 2011;31-32p
- 24. Gupta M, Shafiq N, kumari S, Pandhi P. Pattern and perceptions of complementary and alternative medicine (CAM) among leukemia patients visiting haematology clinic of a north Indian tertiary care hospital. Pharmacoepidemiology and drug safety. 2002 Dec;11(8):671-6.
- 25. Amritanshu Ram. Integrated approach of yoga therapy for cancer. Pdf. JOY- journal of yoga.
- 26. Tripathi JS, Singh RH. Possible correlates of free radicals and free radical mediated disorders in Ayurveda with special reference to bhutagni vyapara and ama at molecular level. Ancient science of life.1999 jul;19(1-2);17-20.
- 27. Shanmugam Thirumalai Swamy, Chandrashekharn, Anuradha, Murugesan Kathirvel, Gandhi Arun Sshanmuga, Subramanian: Feasibility study of deep

Cite this article as:

Kiran Tawalare, Ganesh Hedaoo, Snehvibha Mishra, Ravindra Dhimdhime, Gopal Sharma, Kalpana Tawalare. Need of Integrated Approach Against Cancer to Improve Quality of Life Insight of Ayurveda. AYUSHDHARA, 2015;2(6):428-432.

Source of support: Nil, Conflict of interest: None Declared

- inspiration breath hold based volumetric modulated arc therapy for locally advanced left side breast cancer patients; Asian pacific journal of cancer prevention. vol 15,2014 http//dx.doi.org/10.7314/APJCP.2014. 15.20.9033
- Zankhana. M. Buch. Role Of Ayurveda In Integrated Cancer Rehabilitation: Ayurvaid's Integrated Cancer Rehabilitation Program (Icrp) - A Role Model. www.iamj.in IAMJ: Volume 2;Issue 3;May-June 2014.
- 29. Sushruta, Sushruta Samhita, Sutra Sthana, Vedotpatti Adhyaya, 1/27, translated by Murthy KR. Vol - 1. Chaukhambha Orientalia Varanasi, 2008;9p
- 30. Anticancer Herbs. Available from: http:/www. aurvedindia.in/Anticancer-Herbs/951/Atharva, Anticancer Herbs [last assessed on 15.07.2015]
- 31. Information available online at http://www.who. int/media/entre/factsheets/fs 339/en/ last assed on 9.2.2015
- 32. Aggarwal B B, Ichikawa H, Garodia P, Weerasinghe D, Sethi, Gbhatt I D, Pandey, MK Shishodias and Nair M G, from traditional Ayurvedic medicine to modern medicine identification of therapeutic targets for suppression of inflammation of therapeutic targets for suppression of inflammation and cancer, 10.1feb (2006) 87-118.
- 33. Institute of Medicine (US) Committee on Psychosocial Services to Cancer Patients/Families in a Community Setting; Adler NE, Page AEK, editors. Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs. Washington (DC): National Academies Press (US); 2008. 1, The Psychosocial Needs of Cancer Patients. Available from: http://www.ncbi.nlm.nih.gov/books /NBK4011/
- 34. Agnivesha, Charaka, Dridhabala, Charak Samhita, Chikitsa Sthana, Rasayana Adhayaya, Karprachitiya rasayana pada, 1/3/41-47 edited by Sharma PV, Vol 2, Reprint ed. Chaukhambha Orientalia, Varanasi, 2011;24-25p
- 35. Agnivesha, Charaka, Dridhabala, Charak Samhita, Chikitsa Sthana, Rasayana Adhayaya, Pranakamiya rasayana pada, 1/2/13-19 edited by Sharma PV, Vol 2, Reprint ed. Chaukhambha Orientalia, Varanasi, 2011;18p
- Ibidem. Agnivesha, Charaka, Dridhabala, Charak Samhita, Sutra Sthana, Indriyopakrananiya Adhayaya -8/19-9.
- Ibidem. Agnivesha, Charaka, Dridhabala, Charak Samhita, Shashir sthana, Katidha purushiya shariram Adhaya1/95-97, edited by Sharma PV, Vol 2, Reprint ed. Chaukhambha Orientalia, Varanasi, 2011; 405p.