Abstract: Many cancer patients use homeopathic approaches to increase their body's ability to fight cancer, improve their physical and emotional well-being, and alleviate their pain resulting from the disease or conventional treatments. The aim of this review is to summarize the efficacy of homeopathy and extent of homeopathy market in cancer treatment. Homeopathic treatment is an important way of treating the physical, mental, emotional level of the patient. Cancer patients use chemotherapy to a great extent. There are also many adverse effects of chemotherapy, which we can reduce by homeopathic remedies and through homeopathy, we can activate our body's immune system, if we are using homeopathy with allopathic treatment it is a very strong strategy for completely removal of cancer.

Conventional treatments such as chemotherapy, radiotherapy and hormonal therapy have many side effects. But allopathic treatment is essential for the treatment of cancer. Homeopathic remedies help to reduce the side effects of conventional allopathic treatment to a great extent.

Keywords: Complementary and alternative medicine (CAM), WHO, like cures like’ or ‘similia similibus curantur’, AYUSH, Cancer statistics, homeopathy market size, Efficacy of homeopathic remedies.

Prevalence and Market Expansion of Homeopathy in the Cancer Management
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The arrangement of prescription which are thought to be in Indian in root or the arrangement of pharmaceutical which have come to India from outside and got acclimatized in to Indian culture are known as Indian arrangement of drug. India has the specific difference of having six recognized programs of treatment in this category such as Siddha, Ayurveda, Naturopathy, Homeopathy, Unani and Yoga. [1]. In some countries alternative medicines and complementary medicines are synonyms of traditional medicines. Allopathic medicines are supplementary to alternative and complementary medicines [2].

Many cancer patients use complementary and alternative medicine (CAM) treatments. Homeopathy is one of the most popular CAM modalities for cancer patients in seven out of 14 European countries [3]. Homeopathy has traditionally been very popular in India and South America too, and is increasingly sought after also in the US [4]. Cancer has proven to be a relentless foe in exploiting alternate pathways to resistance to conventional therapies. Cancer patients and survivors often seek alternative approaches while receiving conventional treatments, in the hope of achieving better outcomes in fighting the primary disease, preventing recurrence and improving end of life palliation. Homeopathy is one of such approaches, which was started by physicians in the 19th century based on the theory that any substance that can produce symptoms of disease or illness in a healthy person can cure those symptoms in a sick person using a highly diluted succussed solution. In the US, homeopathy is part of the complementary and alternative medicine (CAM) accounting for a $9 billion market each year [5], with over five million adults and one million children using homeopathy annually [6]. Among the 236 European centres that provide integrative oncology services in the public health system, homeopathy is one of the leading CAM therapies [7].

Homeopathy

Homeopathy got completely absorbed in the tradition of India in 18th century and got complement like some other conventional technique. Thus it is viewed as a part of Indian techniques of medicine [8]. This system of conventional medicine works on the concept of ‘like cures like’ or ‘similia similibus curantur’, which means any substance that produce
some symptoms of a disease in healthy people would cure these similar symptoms in ill people [9].

**History of homeopathy**

The term homeopathy was developed by the German physician, Samuel Hahnemann in 1796, he derived it from the Greek word ‘Homoios’ means similar and ‘Pathos’ means suffering and he combines these two words on the basis of the concept of ‘like cures like’ which was suggested around 400 BC by Hippocrates. Similarly, ‘similia similibus curantur’ was wrote by Paracelsus in the 16th century that was later used by Hahnmann, probably translated as, “What makes people unwell can also treat them”[10]

In the 1950s, Hans H. Reckeweg developed a new form of homeopathy known as homotoxicology [11], which generally uses formulations that contains measurable amounts of homeopathically prepared active ingredients, designed to work with the body’s defence mechanisms and facilitate the body’s elimination of toxic substances (homotoxins). Homotoxicological remedies are prepared according to the rules of homeopathy and are used in combinations as complex remedies. Some experts fail to differentiate between homeopathic and homotoxicological medicines. However, there are important differences [12].

**Current status of homeopathy in cancer treatment**

Current Status of Homeopathy in Indian Traditional frameworks of solution - by and large perceived as AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy) are broadly acknowledged in Indian society and appreciate government supporter-age. The Homeopathic framework isn't indigenous it is among the most prevalent restorative frameworks in India. The interest for homeopathic instruction is expanding the world over. Since India has a greatest number of Homeopathic Medical universities and educators, the world is looking forward towards India for conferring the best, up to date and most logical homeopathic education. Homeopathic education and training has become famous internationally [13].

**Geographic segmentation of homeopathy**

**Homeopathy market size across the world (see Table No.1)**

- Around the world, more than 200 million individuals utilize homeopathy all the time.
- Homeopathy is incorporated into the national wellbeing frameworks of various nations e.g. Brazil, India, Chile, Mexico, Pakistan, United Kingdom, Switzerland [14].
- India leads in terms of number of people using homeopathy, with 100 million people depending solely on homeopathy for their medical care [15].
- There are over 200,000 registered homeopathic doctors currently, with approximately 12,000 more being added every year [16].
- 100 million EU citizens, some 29% of the EU’s population, use homeopathic medicines in their day-to-day healthcare [17].
- Homeopathy is practised in 40 out of 42 European countries [18].
- 10% of people in the UK use homeopathy – an estimated 6 million people [19].
- According to the National Institutes of Health, over 6 million people in the United States use homeopathy, mainly for self-care of specific health conditions.
- Of those who use homeopathy, ~1 million are children and over 5 million are adults [20,21].

**Cancer**

Cancer is the identity given to a group of related illnesses. In a wide range of cancer any of the body cells start to divide without any halt and invade into encompassing tissues. Cancer can begin anyplace in the human body, which is comprised of trillions of cells. Typically, human cells develop and separate to shape new cells as the body required them. At the point when cells develop old or become injured, they are replaced by new cells. In the case of cancer the normal procedure of cell formation and their maturation become uninterrupted so that cells turn out to be increasingly abnormal, mature and injured when these abnormal cells should pass on, and new cells made as they are not desired. These additional cells increase their number without any halt and may frame unwanted growth named tumors.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Market Size (USD Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global</td>
<td>212</td>
</tr>
<tr>
<td>India</td>
<td>100</td>
</tr>
<tr>
<td>United States</td>
<td>6</td>
</tr>
<tr>
<td>European</td>
<td>100</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>6</td>
</tr>
</tbody>
</table>
Most of cancers shape strong tumors which are composed of tissues, but blood cancer such as leukemias, normally don't frame strong tumors [22].

**Benign tumor**

If a tumor grows slowly and prevent development of self, so that these tumors are not capable to invade surrounding tissues and remains at their original sites known as a Benign tumors.

**Malignant tumor**

Malignant tumors or cancerous tumors are inherently unsafe because their cells can increasingly double in number and form deathless daughter cells. Cells in malignant tumor are capable to invade into surrounding tissue and explode them. These tumors circulate to the distant part of body with the help of blood or metastasize and form another tumor [23].

### Cancer segmentation based on different types

Cancer majorly affects the people of United States (US) and all over the world. Statistics help us to know about, what occurs in large gathering of individual and the burden of cancer on society. Statistics disclose to us various things, for example, what number of people are investigated and lose their lives every year from cancer, current status of patient who already undergo with cancer diagnosis, demographics of diagnosis and number of people living with the disease. It also tells about diversity in groups by gender, location, age, racism and many more.

- In the United States an expected number of new instances of cancer in 2018 will be 1,735,350 and the expected number of death with the disease will be 609,640.
- The most widely recognized cancer as per new instances expected in 2018 are as follows in a ascending arrangement,
According to 2011-2015 cases the total number of new cancer instances or cancer incidence is 439.2 for each 100,000 male and female every year.

According to 2011-2015 cases the total number of death from cancer or cancer mortality is 439.2 for each 100,000 male and female every year.

Cancer deaths are higher in number among male than female that is 196.8 for each 100,000 men and 139.6 for each 100,000 women.

In the 2016 the number of cancer survivors in united states are 15.5 million and expected to be increase to 20.3 million in 2026.

In 2017 united states were spend around $147.3 billion. And this cost is expected to increase in coming years due to ages of people and pervasiveness of cancer will increase.

Worldwide

Now the cancer is one of the most leading cause of death. In 2012 14.1 million new instances of cancer and 8.2 million deaths due to cancer were found all over the world.

And the number of expected new instances for cancer in coming 2030 year will increases to 23.6 Million [24].

Side effects related with the cancer treatment

Chemotherapy

Chemotherapy is used to treat cancer which involves more and more anti-cancer drugs either alone or in a combination. Depending on the patients and their stage of cancer, chemo drugs can be administered straightforwardly into the circulation system to treat the abnormal cells present all over the body or focussed on particular cancer site, [25] when chemo drugs administered directly into the blood stream these drugs circulate in every part of the body so that they can treat fast growing cancer cells and also influence the other healthy and normal cells too.

In some cases chemotherapy is joined with some different treatments for more successful outcomes these other treatments include surgery or radiation therapy. Radiation therapy eliminates the cancer by getting a ray from the radiation machine to the targeted cancer site or putting any radioactive material in the same or nearby tumor. [26]

Normal cells which are mostly affected by the chemo drugs and radiotherapy are;

- chromosomes of cells
- Hair follicles
- Cells in the reproductive system, digestive tract, and in the mouth
- Blood forming cells in the bone marrow

Sometimes cells in the kidney, lungs, nervous system, heart and bladder can also be affected by chemo drugs. [27]

Here are some common adverse reactions associated with chemotherapy and radiation procedure (In figure No.3); [28].

Fig-3: Side effects associated with chemo and radiotherapy
Importance of homeopathy in cancer treatment

Among the entire complementary therapies, homeopathy is one of the most common therapies used by cancer patients [29]. This therapy aims to treat the whole body of a person not only the physical symptoms. Working concept of homeopathic treatment is based on that the mind and body of a person is so strongly linked because any kind of physical symptoms cannot be cured without knowing and considering the emotional status, constitution and character of a person.

Homeopathy cannot cure the cancer completely but it treats the cancer patient as their primary physical manifestation. This complementary therapy works by vitalizing the body's own healing capacity so as to activate the healing process. Thus this medical approach treats the cancer patient enabling their system to destroy the tumor [30]. For treating pain due to cancer is relieved by the Cesium chloride homeopathic preparation which is one of the fastest acting substances in pain [31].

Many homeopathic remedies are used to treat different types of cancers; some of them special remedies are somehow with their indication [32].

<table>
<thead>
<tr>
<th>Homeopathic remedies</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbo Animalis</td>
<td>Cancer of the uterus, Cancer of the breast with burning</td>
</tr>
<tr>
<td>Carcinosinum</td>
<td>Anaemia acute pernicious, cancer diathesis and suicidal tendency</td>
</tr>
<tr>
<td>Conium Maculatum</td>
<td>Cancer along with glandular enlargement</td>
</tr>
<tr>
<td>Secale Cornutum</td>
<td>Haematuria, albuminous urine, bloody urine and thick black blood</td>
</tr>
<tr>
<td>Scirrhinum</td>
<td>Breast cancer</td>
</tr>
<tr>
<td>(Baryta Carbonica)</td>
<td>Brain cancer</td>
</tr>
<tr>
<td>Cadmium Sulphuratunm</td>
<td>Stomach and pancreas cancer</td>
</tr>
<tr>
<td>Lycopodium</td>
<td>Lung cancer</td>
</tr>
</tbody>
</table>

At this time, more than 200 homeopathic remedies are available, which are derived from Plants or Vegetable Kingdom, Animal Kingdom and Mineral. Some remedies from them are given below,


Homeopathy is being used to cure constant side effects of radiotherapy and chemotherapy as an alternative therapy. Below are some points to treat side effects of both therapies to cure cancer;

For chromosomal damage
- In a experiment a white mice suffered with less chromosomal damage when mice was given to homeopathic Ginseng and Ruta graveolens.
- Indian research proposes that homeopathic medicine creates a protective effect in the cell of experimental mice by Regularizing genetic material in those cells.

For Stomatitis (Mouth Inflammation and Ulceration)
- Traumeel a complex medicine fundamentally diminished the seriousness and span of chemotherapy-initiated stomatitis (mouth irritation and ulceration) in that experiencing bone marrow transplantation. A large number of these patients were youngsters. Homeopathic medicines in the complex include; Chamomilla, Echinacea, Aconitum napellus, Bellis perennis, Calendula officinalis Arnica montana, Belladonna, Echinacea, Hepar sulphuris calcareum, Hypericum perforatum, Mercurius solubilis, Millefolium, and Symphytum officinale, purpurea, Hamamelis virginiana.

For Skin Inflammation and Itching
- Homeopathic Belladonna and X-ray are helps to alleviate skin inflammation or radiodermatitis caused by radiation.
- With the use of homeopathic preparation Calendula officinalis ointment decrease the skin inflammation and pain in women undergo radiation for breast cancer [34].

<table>
<thead>
<tr>
<th>Homeopathic remedies</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium Sulph</td>
<td>Loss, loss of hair, anorexia, nausea and vomiting</td>
</tr>
<tr>
<td>Radium Bromatum and X-ray (homeopathic)</td>
<td>Burning after radiation therapy, skin reaction</td>
</tr>
<tr>
<td>Aloe Vera</td>
<td>Burning after radiation</td>
</tr>
</tbody>
</table>
Evidence based efficacy of homeopathic treatment
- In a prospective observational study published in 2010, decreased symptoms of weakness were observed in patients, who received homeopathic treatment in addition to traditional cancer treatment [36].
- In another observational study published in 2003, homeopathic treatment reduced symptoms in breast cancer patients with estrogen withdrawal symptoms [37].
- In a study that enrolled 25 breast cancer patients, who received radiation therapy and then complained of radiation-induced itching at treatment sites, homeopathic treatment provided improvement in this symptom in 21 of the patients [38].
- In a randomized controlled study conducted on 66 breast cancer patients, who received postoperative radiotherapy, homeopathy became helpful in the treatment of radiotherapy-induced dermatitis [39].
- In another randomized controlled study, the homeopathic medication Traumeel S was observed to significantly reduce the severity and duration of chemotherapy-induced stomatitis in children treated with stem cell transplantation [40].
- In another study, a mixture of 3 homeopathic medicines was tested on the menopausal symptoms of 83 women with breast cancer stories, whose treatment have been completed with the achievement of a cure. As a result, although it did not make a significant difference in hot flashes, it provided a little positive effect on overall health status [41].

Evidence based efficacy (a comparative case studies)
To evaluate the added value of homeopathy to conventional care, a prospective observational study in Switzerland and Germany evaluated two cohorts of patients with cancer, one cohort was treated with homeopathic complementary therapy in addition to conventional care (surgery, chemotherapy, radiation, hormone therapy, and others) and one cohort was treated with only conventional care.
- In this study of 639 patients, researchers observed that quality of life and fatigue symptoms improved in cancer patients who received the homeopathic complementary treatment [42]
- A more recent randomized controlled trial evaluated classic homeopathy as a supplement to conventional cancer care. All patients received standard anti-neoplastic therapy and were randomized to receive classic homeopathic adjunctive therapy in addition to standard therapy. This study of 285 patients revealed that patients who received the homeopathic treatment had significantly better global health status and subjective well-being than those who received only conventional cancer care [41].

Safety
In 2009, a review of clinical trials in homeopathy and cancer was performed by The Cochrane Collaboration. This review evaluated the safety and effectiveness of homeopathic medicines that were used to prevent or treat adverse effects of cancer treatments. The reviewers found eight controlled trials with a total of 664 participants. The researchers concluded that there were no serious adverse effects related to the homeopathic remedies that were used. The review also found some preliminary data that suggest beneficial effect of homeopathy in dermatitis during radiotherapy and chemotherapy-induced stomatitis. There was no convincing evidence for the efficacy of homeopathic remedies for other adverse effects of cancer treatments [42].

CONCLUSION
Despite advances in cancer care, patients continue to experience distress and disability during cancer treatment and afterward. As a result, patients use complementary modalities such as homeopathy to address these needs as a palliative or supportive treatment; homeopathy is used mainly to strengthen the body in its fight against cancer, to improve general well-being, and to alleviate pain resulting from disease or conventional treatments. One of the most important reasons for using this kind of CAM is because homeopathy is very safe to use and there are no dangerous advert effects.

The global homeopathic medicine market is growing continuously, according to a research report homeopathic medicine market is expected to grow globally at a CAGR (compound annual growth rate) over 12.5% by 2023.

Table-4: Some other homeopathic remedies for chemotherapy [35]

<table>
<thead>
<tr>
<th>Homeopathic remedies</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium Sulph</td>
<td>Weight loss, loss of hair, anorexia, nausea and vomiting</td>
</tr>
<tr>
<td>Ipecacuanha</td>
<td>Vomiting and diarrhoea, purging, total anorexia, horrible nausea, mention or thought of food makes them gag</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>Nausea and vomiting, liver poisoning, tendency to bruise and bleed after vomiting, anaemia medicine</td>
</tr>
<tr>
<td>Nux Vomica</td>
<td>In the stronger vomiting</td>
</tr>
<tr>
<td>Arsenicum album</td>
<td>In the diarrhea with extreme weakness</td>
</tr>
</tbody>
</table>

Available online at http://saspublisher.com/sajp/
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