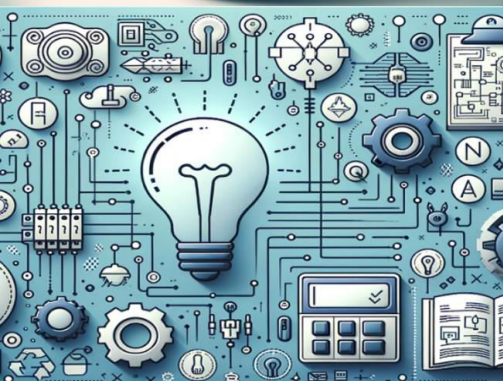


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**International Journal of Multidisciplinary Research in
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Formulation and Evaluation of Herbal Capsules for based on Herbal Plant Treatment Breast Cancer

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ABSTRACT:

Aim: Formulation and Evaluation of Herbal Capsule Based on Indian Medicinal Plants for Cancer Therapy.

Objective: The study is carried to the perform brief description about cancer, medicinal plants and Cancer drugs that have anticancer activity. Study reviewed of cancer, anticancer drugs and anticancer medicinal plants like of cancer treatment.

Materials and Methods: The crude drug used are Phyllanthus niruri, Smilax china, Swertia chirayita, are collected and the powdered form of these drugs was prepared.

Results and Discussion: The in vitro MTT assay on MCF-7 breast cancer cell lines was carried out. MTT assay on MCF-7 breast cancer cell lines indicated that polyherbal capsule formulation exhibited Enhanced cytotoxic effects at IC50 values.

Conclusion: At the different doses (10 to 100 µg/ml) of Sample A carried out for anticancer activity Against MCF-7 cell line, the compounds Sample A showed good activity against breast cancer cell line When you compared to standard drug 5 FU.

KEYWORDS: , Phyllanthus niruri, Smilax china, Swertia chirayita,

I. INTRODUCTION

Cancer is a major public health burden in both developed and developing countries. It is an Abnormal growth of cells in body that can lead to death . Cancer cells usually invade and Destroy normal cells. The These cells are born due to imbalance in the body and by correcting This imbalance, the cancer may be treated. In Cancers are a group of diseases characterized by their ability to function. If the spread of Cancer cells this stage is known as metastasis is not controlled, it can result in death. Cancer is Caused by Population Measures and Cancer Incidence and many external factors (tobacco, Chemicals, radiation and infectious organisms) as well as some internal (inherited mutations, Hormones, immune conditions and random mutations) .

Cancer: Excessive cell proliferation that has the potential to spread to other body areas, cancer Is an illness caused by genetic or epigenetic changes in the somatic cells. They comprise a Subgroup of cancer. The unchecked proliferation of cells known as neoplasms or tumors, Which can be dispersed widely and form a lump or bulk .

Chemotherapy involves employing traditional anticancer medications to treat recurrent Malignancies throughout the body, yet these drugs have substantial adverse effects . High Dosages, non-specific distribution, extreme toxicity to healthy cells, insufficient medication Concentrations at tumors or malignant cells, and the emergence of multidrug resistance are the Main causes of adverse effects . Thus, ongoing research is being done to develop better Anti- cancer treatments that can target tumor cells specifically while having the fewest negative Effects on healthy tissues .

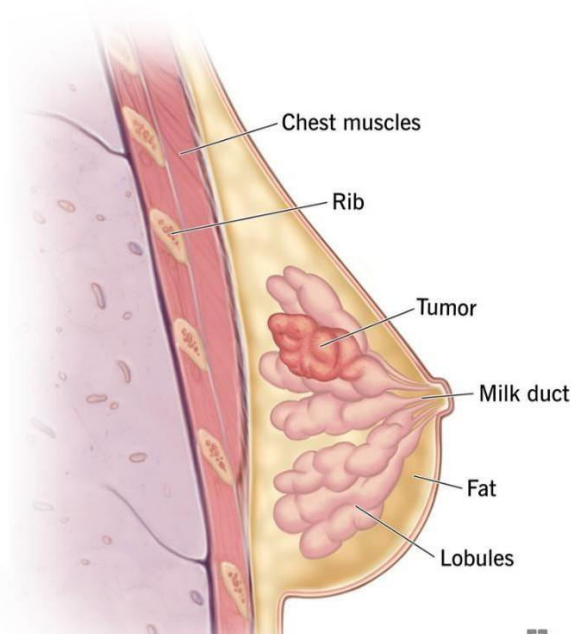
One type of treatment called chemotherapy employs medications to target cancer cells. It is Referred to as a “systemic treatment” because the medication enters the bloodstream, moves Throughout the body, and destroys cancer cells where they are found. Most of the time, the Goal of the medications is to eradicate cancer cells from the body, regardless of where they May be located. However, this is not always the case. Since normal actively dividing cells in The gastrointestinal tract, reproductive system, and bone marrow are also affected by chemotherapy. And most individuals have some degree of Side effects in the hair follicles, such as nausea, vomiting, hair Loss, mouth sores, and ulcers .



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Breast cancer



Importance of developing novel anticancer formulations

1. Herbal medicines have been widely used around the World since at the ancient times. The use of 'herbs' in the Treatment of various diseases with fewer side effects has Significantly increased .
2. Phytoconstituents are the plant constituents used in herbal Medicines which are responsible for the biological action.
3. Phytoconstituents are also required for standardization of Herbal molecules. It depends on the age of the plant, time Of collection, environmental condition, etc.
4. Various classes of phytoconstituents that are alkaloids, Flavonoids, tannins, essential oils, etc.
5. These phytoconstituents are water-soluble but are big Molecules and hence not able to cross that are the lipid Membrane and thus are show poor absorption.
6. Limitations of using natural products as medicines are Stability, absorption and therapeutic effects which can be Overcome by Novel Drug Delivery Systems.
7. Nanomedicine involves utilization of the Nanotechnology For the human health welfare .

Growing interest in herbal remedies for cancer treatment

The main reasons for using herbal remedies than synthetic Treatment are.

1. There will be less side effects when compared to Synthetic treatment.
2. The impact of dose variation will be less.
3. The cost of herbal products will be economically less.
4. These will be the widely available.
5. They are easily biodegradable.
6. There will be no tedious steps in synthesis of herbal Products.
7. The synthetic treatment may or may not cure completely. Herbal treatment for cancer avoids various physical side Effects like pain, nausea, vomiting, fatigue, anaemia, Lymphedema, fertility problems and ostomies caused by Different cancer treatments like chemo therapy, radiation Therapy etc. which are synthetic treatments .



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II. OBJECTIVES

The study is carried to the perform brief description about Cancer, medicinal plants and cancer drugs that have anticancer Activity. Study reviewed of cancer, anticancer drugs and Anticancer medicinal plants like Phyllanthus Niruri, Smilax china, swertia chirayita, of cancer treatment .

III. MATERIALS AND METHODS MARTIALS

The crude drug used are chirata, Bhumi amla, chopchini, are collected and the powdered Form of these drugs was prepared.

Procedure

All the required powdered mixtures were precisely weighted, And were passed through a standard sieve (sieve no 80) and Blended for 5 and weight of all powder in 3 gm then all Powder are mix and then fill the herbal capsule were prepared By compression method using single punch at the press Machine.

Standardization of formulation:

1. Weight variation of Capsule

Weight 10 capsule (total weight) find out individual weight And calcaluate the average weight then individual weight of Capsule should be with in the limit of average weight.Remove The net content of each capsule.weight empty Shells Individually. Find out net weight of content individually by Using formule.

Net weight (Avg. fill) = Avg. Wt – empty cap shell wt.

= 0.28 – 0.06.

2. Stability tests

Stability tests for capsules are performed to know the integrity Of gelatin capsule shell (but not to know the stability of Therapeutically active agent) and for determining the shelf Life of capsules.The tests helps in improving the quality of Contents of capsule shell and for choosing the appropriate Retail package.

Before actually performing the tests following fact

The capsule shell are to be stabilized to know atmospheric Condition with relative humidity about 20-30% and Temperature about 21-24 °C.

A) Shell integrity test

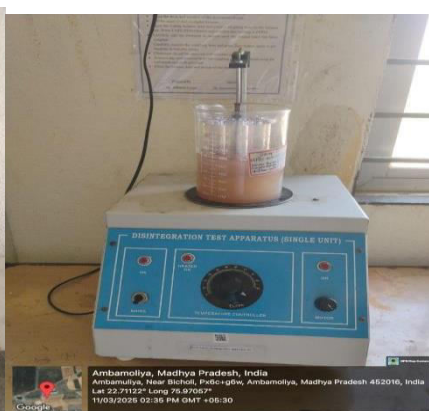
This test is performed to find out the integrity of capsule shell. The standard capsule shells kept at the room temperature 40 °c and 80% RH becomes more soft, sticky and swollen.

B) Determination of shelf life

Shelf life or the expiry date of packed capsules is determined Under normal storage conditions

3. Moisture permeation test

This test is carried out to assure the suitability of containers For packaging of capsules. The moisture permeating feature of Capsules packaged in Single unit containers-blister pack or Strip pack.Unit dose containers glass or plastic bottle is to be determind.



= 0.22



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Table1 Herbal Ingredients

| S no. | Ingredients |
|-------|--------------------|
| 1 | Swertia chirayita |
| 2 | Smilax china |
| 3 | Phyllanthus niruri |

IV. RESULT AND DISCUSSION

Cancer is treated by surgery, radiation therapy, chemotherapy, Targeted therapy, Hormone therapy, Stem cell transplant, Precision medicine and Immunotherapy to treat cancer. The Study was conducted to annotate the immunomodulatory potential of Indian medicinal plants.

Table 2. Phytochemical Properties of powder

| Powder | |
|---------------------|-------------|
| Flavor system | |
| Taste | better |
| Colour | Brown |
| Texture | Fine powder |
| Physical properties | |
| Size | No limit |

Table 3.weight variation of capsules

| S no. | Weight variation |
|-------|------------------|
| 1 | 0.34 |
| 2 | 0.32 |
| 3 | 0.42 |
| 4 | 0.38 |
| 5 | 0.34 |
| 6 | 0.32 |
| 7 | 0.28 |
| 8 | 0.32 |
| 9 | 0.32 |
| 10 | 0.38 |



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V. CONCLUSION

To address both cancer treatment and prevention, it's Essential to utilize Ayurvedic herbs that target multiple Pathways simultaneously. It could prove helpful in both Lessening the side effects of chemotherapy drugs and Improving their effectiveness as supportive treatment. These Herbal medicines may be used as a supplemental therapy To help patients to feel better and endure cancer treatment Better. In most cases, an alternative therapy is used in Place of conventional care. Now is the time to increase Awareness, support the use of Ayurvedic cancer treatments, And advocate an integrated approach to tumor care and Treatments .

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