CHAPTER - 2
AIMS
AND
OBJECTIVES
2.1. RATIONALE OF THE STUDY

Man, a unique creation of God, but part of the universe. Like other living creatures man has been provided with food, water and shelter around his habitat. Eco-friendly tribals collect their food, fuel, fodder, housing material and herbal medicine from the forest where they live. Health care systems, which is a part of the traditional culture of the people, has become a profession in the modern industrial world. Synthetic medicines manufactured by the well off and influential pharmaceutical companies have given rise to side effects that are more hazardous than the infections they claim to cure. The world’s attention has again turned to traditional medicinal system. Utilization of natural resources in indigenous products may not only bring about the self-sufficiency in drugs which we talk of, but may perhaps provide safe and sure remedies for human ailments.

Out of twelve, India is one heading bio-assorted qualities focuses with vicinity of in excess of 45,000 diverse plant species out of which 15,000 to 20,000 have good medicinal value. Recent survey showed that above 50 % of all medicines are either directly resultant from the natural source or synthesized by natural models as the sole ingredient or as one of the several ingredients. Investigative study of therapeutic plants offered a plenty of structurally novel different and active compound. Multi-disciplinary research on plants has led to many drugs as well as prototype active molecules and biological tool. There has been a resurgence in uses of natural medicine in the earlier few years, not only between the traditional medicinal users but also among the modern consumers of herbal products. The difference in the mode of usage of these herbal products from the past to present can be noticed when we glance at the various standardized and formulated herbal products in the markets. WHO have also documented the integrated system of medicine to reach the goal of healthiness for all. Therefore, it now becomes important to validate their traditional herbal medicine as potential therapeutic agents and bring international acceptance.

Everyone practices physical pain in one form or another through his or her life span. Pain and inflammation convey most ailments and physical damage. Pain may be acute, intermittent, or chronic. Since the great undesirability of pain, many medicines and managements have been required through history. Further, ongoing research to seek analgesic and anti-inflammatory compounds that provide extreme strength with minimal adverse side effects, such as chemical dependency.
Among all types of pain, chronic pain produced by degenerative or inflammatory diseases is thought to be especially intolerable because of its perpetual presence. Many diseases, such as malignant neoplastic disease and arthritis, may cause chronic pain and excitement, which is so devastating that it virtually weakens the afflicted person. Thus, investigation efforts in the pharmaceutical and medical disciplines constantly seek preparations of analgesic and anti-inflammatory agents, which are capable of long lasting high potency. The duration of strong activity is particularly important when caring for chronic pain in society to reduce administration frequency. By reducing administration rate, irregular pain, which occurs as one dose wears off, and before another is administered, is impressively cut down. Many painkillers such as codeine, tramadol, and dextropropoxyphene have been employed to handle mild to moderate pain. Additionally, for more serious pain, opioids like methadone buprenorphine morphine, oxycodone, fentanyl, hydromorphone, and heroin have been applied. Unfortunately, sound usage of opioids, or other narcotics often lead to chemical addiction, or dependence.

Chemical addiction is often extremely difficult and painful to master. One common management comprises administration of opioids and opioid analgesics in reducing doses over an extended period. For example, methadone is well-recognized for treating heroin addiction by administering in gradually diminishing amounts. While such regimens do tend to ease several of the withdrawal indications related with decontamination, they take months to complete it and are therefore slightly successful in helping the addict take a permanent step away from chemical addiction.

Inflammatory diseases in the human beings are coming forth as importantwellbeingproblematic of 21st C. Inflammatory ailments and its complications like gastrointestinal symptoms including diarrhea, abdominal pain, GI hemorrhage, anemia, weight loss, spondylitis arthritis, ankylosing, uveitis, iritis sclerosing cholangitis, pyoderma gangrenosum and erythema nodosum take major on the caliber of life elderly and the health care costs of the club.

Therefore, it is envisaged that in order to subside the complications and toxic effects of allopathic medicines; traditional herbal medicines should be worked in a suitable delivery dosage forms as they are thought to be secure because of natural descent.
Literature survey suggests following parts of plants for the possible remedy of the above-mentioned ailment.

Fruits of *Lagenaria siceraria*,
Leaves of *Ocimum gratissimum*,
Leaves of *Moringa oleifera*.

Ayurveda is an antiquated recuperating arrangement of pharmaceutical. Premier plans utilized within Ayurveda are grounded on sweet-smelling plant. The curative herbs are utilized as decoctions, imbuements, powders and tinctures. Ayurvedic treaties like Sushruta, Charaka have included uncommon parts on Ayurvedic formulations in the section on ‘Kalp-Sthana.’ It manages systems for arrangement and measurements of formulations.

At the point when more than two aromatic plant are utilized as a part of preparation, termed as polyherbal product. Here and there herbs are additionally joined together with mineral formulations. The herbs constantly existed in rough state and Ayurveda depicts methodologies of standardization of lethal herbs. The thought of polyherbalism is unconventional to Ayurveda, despite the fact that it is difficult to clarify as far as cutting edge constraints. Sanghar "samhita" acmes the idea of synergism behind polyherbal preparations.

The present work relates usually to a composition and method for managing pain and inflammation. More principally, the present development relates to the pain and inflammation managing composition, which contains extracts from plant species. The present invention provides a conventional and novel composition which transdermally administered plant extracts for ameliorating pain and inflammation.
2.2. OBJECTIVES OF THE PRESENT STUDY

At the moment, scientific investigation on medicinal plants is ongoing more intensely in research institutes, universities and pharmaceutical research laboratory as well as in the clinics of many developed countries. Plant based solutions are constantly progressively favored in restorative discipline.

The recuperating fragments of therapeutic plant are its its clears out or woody stem, as well as, quantity of concoction mixes delivered, utilizes for it development and improvement.

The remedial worth and pharmacological activity of the medication are because of the vicinity of certain compound constituents, for example, sugars, subordinates of starches, gums, adhesive, different types of glycosides, pectins, tannins, altered and unstable oils, phenolic mixes, lipids, saps, different sorts of alkaloids, and so forth. These phytoconstituents are of colossal essentialness to humankind. Phytochemical examination of plants is a fascinating territory of exploration, prompting the disconnection of a few new mixes.

In the post-genomic era, progresses in the field of natural medicine create amonstrous open door for plant-determined medications, which served as wellspring restorative executors in aged period furthermore gave numerous critical remedial substances in contemporary medication innovative work. There might be most likely plants not just remain to hold their chronicled criticalness as an imperative wellspring of new medications, additionally are amazingly helpful as a support of lead buildings for the arrangement, amalgamation and development of novel medication mixes in cutting edge pharmaceutical innovative work.

The key objects of the present study were

- To conduct the systematic phytochemical investigation of plant material.
- To extract the specified parts of plants selected for the study.
- Screening of herbs for calming, pain relieving and hostile to pyretic movement
- Formulation and evaluation of polyherbal dosage forms for topical use.
- Construction and assessment of transdermal strip (NDDS) comprising herbal extracts.
- Screening of developed polyherbal dosage forms and NDDS for their anti-inflammatory activity.
- The definitive goal of the existing work is to progress herbal medicine in a suitable dosage form for anti-pyretic, analgesic, and anti-inflammatory action.
2.3. PLAN OF WORK

The whole study was planned as follows: -

- Collection and Authentication of medicinal plants.
- Processing of plants part
- Organoleptic evaluation of plants part
- Extraction of plants part
- Physicochemical characterization of extracts with different methods.
- Analgesic, Anti-pyretic and Anti-inflammatory activity of each extract.
- Preparation and evaluation of polyherbal formulations – conventional dosage forms for topical use.
- Preparation and assessment of TDDS.
- Stability study of polyherbal conventional formulation and polyherbal transdermal patch formulation
- Anti-inflammatory activity of polyherbal conventional formulation and polyherbal transdermal patch formulation