RESEARCH ENVISAGED

Need for the Study

Medical plant investigation is intended at the seclusion and recognition of obviously happening constituents. The greater part of mining actions for fortitude of plant substances are urbanized in a mode so as to finishing whole introduced hooked on the modern chromatographic techniques have only elements with all interferences detached. This is single district wherever customary techniques have sounded absolute hardship. In fresh existence, utilization of microwave for drawing out of substances from plant matter has revealed incredible study curiosity and impending. Conformist techniques for taking out of vigorous substances are point in time period and liquid overriding, thermally precarious plus examination of abundant components in natural stuff is partial through pulling out pace.

Conventional extraction is typically carried out by refluxing heat for some hrs, process seen extremely time period overriding in addition needs comparatively huge amounts of solvents (Proestos C and komaitis M, 2008). MAE has grown speedily in the preceding time, and for majority of applications it has established successful in all criteria to customary extraction methods.

In topical existence, application of microwave for withdrawal of substances from plant matter has revealed marvelous delve into awareness and prospective. Conservative processes for pulling out of energetic substances are moment and liquid overwhelming, hazardous to heat sensitivity plus scrutiny of abundant elements in nature stuff is partial through extraction procedure.

Microwave extraction is easiest and mainly reasonable procedure for mining of countless plant consequent substances (Hemwimon S, 2007). Microwave assisted withdrawal can lessen equally the removal moment and solvent spending in contrast to conservative techniques, established by severely increased elimination of assortment of elements from hard matrix. Additionally, it has capability to advance withdrawal superiority (Pan YM, 2008).

Order for binders and suspending agents from likely sources has been augmented as of their tiny of toxicity, less price, ease of use, consoling exploit and non infuriation scenery. Elevated charge of simulation polymer and biological contamination by element attentiveness has prone scientist in promising kingdom to go into into period, into which plant foodstuffs hand out as substitute to artificial foodstuffs since restricted convenience, ecological
cordial life, subsidiary cost and harmless contrast to imported mock harvest (Singh S and Bothara SB, 2010).

There are large numbers of ordinary polymers enclos ed in pharmaceutical formulations. Likely constituents like gums, starches and mucilages and in addition dehydrated fruits can be old as obligatory agent. They have been shown good potential as binding agent as well as they posses some other properties like disintegrating agent, fillers, sustain releasing agent. Natural polymers shown good binding property in wet granulation, granules are stable and less friable in comparison with other binders. They can moreover employ to amend discharge of medicine, by this means, changing the incorporation and ensuing bioavailability of the included preparation. Besides, they can perform as vehicles which convey the built-in remedy to the position of assimilation and are probable to assurance the steadiness of the integrated medicine, the meticulousness and truthfulness of the prescribed amount, and also recover on morphological possessions of medicines where needed in array to boost serene obedience (Patel Shailendra, 2012). With enlargement in lay down for likely mucilage, it has turn into necessity to separate and estimat elatest sources of mucilage to assembled desires (Sravani B, 2011).

A quantity of plant gums have been worn as fastening agents in drug preparations viz. tragacanth, guar gum and acacia (Banker GS and Anderson NR, 1987). Trigonella foenum-graecum, belongs to family leguminosae (Trease GE and Evans MC, 2002). Fenugreek seeds hold an elevated proportion of mucilage comparable to other mucilage gaining elements, fenugreek seeds bulge up and develop into smooth when they are uncovered to fluids (Al-Habori MA, 2002). Liquorice also has been listed in mucilage containing plants (Dawidowsky and Ferdinand, 2009). Previously Cordia species fruit mucilage with different binder as an anti capping agent has been employed pharmaceutically (Kassem AA, 1969). Thus, from the extensive literature survey the following plants have been selected for the research purpose.

- Trigonella foenum graecum
- Glycyrrhiza glabra
- Cordia myxa

2.1 AIM AND OBJECTIVES
- To evaluate quality control parameters of seed part of *Trigonella foenumgraecum*, roots of *Glycyrrhiza glabra* and fruits of *Cordia myxa*.

- To extract mucilage from seed part of *Trigonella foenumgraecum*, roots of *Glycyrrhiza glabra* and fruits of *Cordia myxa*.

- To perform optimization of microwave facilitated extraction process to isolate mucilage.

- To inspect pharmaceutical possessions of mucilage as an additive in medicinal preparations.

- To check Binding capability of mucilage in tablet formulation.
2.2 PLAN OF WORK

1) Gathering and Authentication of Plant substances.

2) Assessment of Eminence Control Parameters
   - Pharmacognostical Study
   - Macroscopic examination
   - Microscopic examination
   - Physiochemical Parameters
     - Moisture content
     - Evaluation of ash
       - Total
       - Acid insoluble
       - Water soluble
     - Determination of extractive matter
       - Water soluble extractive
       - Alcohol soluble extractive
     - Preliminary Phytochemical Investigation

3) Extraction and Purification of Mucilage
   - Extraction of mucilage by conventional method
   - Extraction of mucilage by microwave assisted method

4) Optimization of Microwave process

5) Physiochemical Characteristics of Mucilage

6) Drug and Excipient Compatibility Studies

7) Preparation of Binder Solution
8) **Formulation of Granules**
   - Grounding and assessment of granules

9) **Formulation and Examination of Tablets**
   - Preparation of tablets
   - Evaluation of tablets
     - Weight uniformity test
     - Tablet hardness test
     - Friability test
     - Disintegration time
     - Dissolution test