CHAPTER 3

RESEARCH GAP

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Urolithiasis is a prevalent health issue, with kidney diseases affecting a substantial portion of the global population, estimated at about 20-22%. Among various types of stones, Calcium oxalate and uric acid calculi are the most frequently encountered in nephrolithiasis. The recurrence of kidney stones is a significant concern, attributed to the nucleation and supersaturation of substances like calcium and uric acid in the kidneys. This phenomenon is predominantly observed in males.

Stones development:

1. Reduce in urine volume and an increase in the concentration of stone-forming substances in the kidney.
2. Increase of excretion of calcium oxalate, urate, cystine, xanthine, & phosphate.
3. Increased level of Parathyroid hormone and decreased level of calcitonin.

Treatment of many operative procedures for curing urinary stone disorders, have been established in recent decades. There are currently numerous techniquesavailable likepercutaneous nephrolithotomy (PCNL), extracorporeal shockwave lithotripsty (ESWL) and flexible urinoscopy (FURS) with laser lithotripsy. These procedures are very painful and also there no assurance of non-reoccurrence of the stones after Lithotripsy.

A wide variety of allopathic treatments are readily available on the market. However, since these drugs are excreted through the kidneys, they can potentially burden the kidneys. Therefore, traditional herbal remedies have been employed to address kidney diseases caused by various factors. Some marketed preparations are available but contains many herbal drugs together. Many markets Polyherbal formulation doesn't have combination of all three plants. Therefore, there was need to formulate, develop and evaluate Polyherbal formulation in order to understand better its chemical composition, safety and in vitro and in vivo efficacy related of this polyherbal formulation in curing kidney stone. Hence current research was taken on Isolation, Identification, Estimation of phytochemicals responsible for antilithiatic activity of Polyherbal granule formulation. ***Boerhavia diffusa, Celosia argentea*** **and** ***Plumeria Rubra*** was evaluated for antiurolithiatic and nephroprotective

activity in Wistar rats. From the literatures present project is seems more promising than existing Litholytic agents. The project will provide effective and economic polyherbal oral formulation for the treatment Urolithiasis. The proposed study will provide evidence-based research for Herbal Drugs.