



# To Study Nishamalaki Sustained Release Tablet as an Antidiabetic Activity

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**Abstract :** Amla (*Emblica officinalis*) and haldi (*Curcuma longa*) are combined to form "Nishamalaki" or "Nisha Amalaki," which is used to cure diabetes. It works well for diabetes-related neuropathy and urinary problems in addition to diabetes itself. One of the most important health issues facing the world today is diabetes mellitus. The population of diabetic Indians has been shown to have poor glycemic control. All health agencies have identified diabetes as one of four priority non-communicable diseases for prevention and control. The goal of the current report is to examine the potential uses of an effective herbal combination of amla and haldi as a sustained release tablet for Type 2 Diabetes mellitus prevention and health promotion.

## INTRODUCTION

In novel drug delivery technology, the medication can be incorporated into a carrier system or its molecular structure can be altered to manage drug distribution. Including herbal medications in the delivery system also improves their solubility, stability, protection from toxicity, pharmacological activity, tissue distribution, sustenance of administration, and resistance to physical and chemical deterioration.

The efficacy and harmful effects of various herbal medications are decreased when novel drug delivery technology is used in herbal medicine. The fundamental principle behind using new medication delivery in herbal remedies is this. In order to treat progressively severe diseases, novel drug delivery systems and herbal therapies should be combined.

The sustained release technology gives the body just the right amount of medication to have the intended pharmacological effect. The residual drug amount occasionally releases and maintains the peak initial pharmacological action for a suitable amount of time beyond that anticipated from the typical single dose. Any drug delivery method that accomplishes a slow release of the drug over an extended period of time is considered a sustained release system. The technique is regarded as a sustained release system since it successfully maintains constant drug levels in the target tissue or cells.

## NEED OF THE STUDY

All health agencies target diabetes as a non-communicable disease for the prevention and control of non-communicable diseases. A need to enhance the quality of life for the diabetic population is shown by the growing number of years lived with diabetes and its effects. It takes time for normal glucose tolerance to progress to diabetes. A range of metabolic abnormalities can be brought on by prediabetes, which is usually acknowledged as the early stage of diabetes mellitus. According to the World Health Organization, roughly 80% of the population in developing nations and close to 60% of the global population both rely on herbal medicines for their main healthcare requirements. In order to prevent Type 2 DM and its complications, it is necessary to choose herbal medications that are hypoglycaemic, hypolipidemic, and can lower oxidative stress.

## NISHAMALAKI (HERBAL COMBINATION OF *CURCUMA LONGA* AND *EMBLICA OFFICINALIS*)

'Nishamalaki' selected as a herbal drug which is used in treatment of Diabetes Mellitus. It is also effective in urinary disorders, in neuropathy occurred due to diabetes. Ayurveda The traditional Indian medical system provides a multi-modal, comprehensive, and balanced approach to treating diabetes. Numerous plants have antioxidant and hypoglycemic effects. In the Ayurvedic medical system, using combination herbal treatments is a widespread practise. Herbal preparation "Nishamalki tablet" is a 1:1 mixture of amla (Indian gooseberry powder, *Emblica officinalis*) and haldi (Turmeric powder, *Curcuma longa*). In ancient Ayurvedic texts, this

combination is recommended as the finest treatment for diabetes mellitus. Numerous studies shown that Nisha Amalaki might significantly lower diabetes patients' lipid levels and manage their fasting blood sugar levels.

## PHARMACODYNAMIC ACTION OF NISHAMALAKI SUSTAINED RELEASE TABLET IN AYURVEDA

### AMLA

**Biological Source** – This consists of dried as well as fresh fruits of the plant *Emblica officinalis*, belonging to the family Euphorbiaceae.

The chemical constituents of Amla like gallic acid, gallotanin, ellagic acid shows Anti- diabetic activity. Amla also contains Vitamin C – Wound healing, Antioxidant.

### HALDI

**Biological Source** –Turmeric consists of dried as well as fresh rhizomes of the plant known as *Curcuma Longa*, belonging to family zingiberaceae.

The chemical constituents in haldi are volatile oil, resin, starch grains, curcuminoids (curcumin is chief constituent-50-60%) which gives yellow colour to haldi.

**Antidiabetic** – The constituents present in amla that are gallic acid , ellagic acid and gallatonin acts as antidiabetic

**Hypolipidemic** - amla as well as turmeric has lipid lowering properties.

**Antioxidant** – vitamin c in amla has antioxidant activity.

**Antibacterial** – turmeric since ancient time used against infections.

**Anti-inflammatory** – turmeric shows anti – inflammatory property.

### CONCLUSION

The Nishamalaki sustained release tablet has the potential to effectively deliver prolonged medication release for the management of diabetes mellitus. In India, the rate of diabetes mellitus and the resulting morbidity and mortality are potentially severe. The healthcare costs it could cause are tremendous, placing a heavy burden on both families and society. The use of "Nishamalaki sustained release tablet" as part of a healthy lifestyle regimen would be an effective regimen to prevent and control type 2 Diabetes Mellitus and its modifiable risk factors, such as obesity and Hyperlipidaemia, as "Nishamalaki sustained release tablet" has been found effective in the clinical management as well as prevention of complications of Diabetes through many studies.

### REFERENCE –

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