

## **A Quality Initiative of Pre-Mixing of Concentrated Electrolytes Solutions in High Risk Cardiac Patient Setup**

*Meena Mairaj, Munazza Quraishi, Sumaira Khan  
Tabba Heart Institute, Karachi, Pakistan*

**Background:** High-alert medications are drugs that have high risk tendency of causing serious adverse events to patients when used not cautiously. It is fact that about 58% of the injuries caused by high alert medications in hospital. Pre-mixing of Intravenous concentrated electrolytes solutions in hospital pharmacy eliminates the step of nurse mixing solutions on patient care units which has the risk of error and also removes the need to keep concentrated electrolytes on patients care units and therefore removes the risk of adverse events.

**Objective:** The goal of medication therapy is the attainment of defined therapeutic result that enhances a patient's quality of life while reducing patient risk.

**Method:** Pharmacy department leadership engaged all quality head department, nursing department, cardiologist doctors and raised awareness on high alert concentrated electrolytes and its criticality and importance to improve the patient safety. Made protocols, guidelines and started training sessions with physicians and nurses and assure pre-mixed form of high alert electrolytes will be prepared and dispensed from hospital pharmacy to ensure the safety of patients.

**Results:** The result showed no near miss errors reported after this quality initiative. Only 1 administering error reported after pre mixing of concentrated electrolytes and no infusion rate errors reported.

**Conclusions:** Pre-mixing of electrolyte solutions in hospital pharmacy can help reduce errors. Use of standardized order sets are good ways to avoid errors.

## Control Diabetes by Lemon Balm Therapy

*Amina Daud, Hunaina Ghauri, Maria Mukhtar, Anum Yaseen, Hajra Zahid Khan, Hafiza Amatus Saboor,  
Hafiza Maryam Ahmed, Maryam Mehmood, Qurat-ul-Ain Waseem*

**Background:** Diabetes mellitus is a metabolic disorder of the endocrine system, which is resulted due to autoimmune destruction of the pancreatic beta-cells or insulin receptor insensitivity. Common symptoms of diabetes include polyuria, polydipsia, weight loss, polyphagia, and blurred vision. However, The persistent hyperglycemic effect of diabetes is linked with long term failure of different organs mainly kidneys, eyes, blood vessels, nerves and heart.

Melissa officinalis commonly known as lemon balm, because of its lemon scent, belongs to family lamiaceae. According to the scientific research lemon balm have many advantageous effects such as neuroprotective, anxiolytics, and anti-oxidant, and antiinflammatory. In fact, in this plant hundreds of chemicals have been identified among which citral, citronellal, geraniol, and linalool and beta caryophyllene-oxide. Citral and citronellal are responsible for the odor of the plant. However, antioxidant effect of lemon balm is due to the presence of plenty of flavonoids. Hence, Lemon balm has been considered as commercially significant plant, because of its use in pharmaceuticals, food and health industry.

**Objective:** The design of this research project is to study the therapeutic effect of hydro alcoholic extract of Melissa officinalis.

**Method:** The lemon balm tea is prepared by boiling the leaves in water for few minutes under sterile condition. Then the solution is strained by a filter paper and the extract of lemon balm (tea) is prepared. However, for the preparation of tincture, the leaves of lemon balm are macerated in ethanol for four weeks. After that the solution is strained by filter paper and is stored at room temperature. On the other hand the glucose level of test mice is increased before the administration of extracts by sugar solution. In addition, the blood sugar level of mice has been attenuated by the action of both the lemon tea and tincture. Thus, it is indicates that lemon extract is effective for hyperglycemia.

**Result:** The lemon balm tea and lemon balm tincture significantly reduced blood glucose levels.

**Conclusion:** Lemon extract is effective for hyperglycemia in mice. As both the lemon balm tea and lemon balm tincture are effective in reducing blood glucose level in mice.