**IOT BASED INTEGRATED IV INFUSION SYSTEM (AUTOMATED) USING RFID**

**ABSTRACT:**

On looking at most hospitals in India, the patient to nurse ratios are prevalent. It is impossible to allot medical assistants for each and every patient. So it results in poor patient monitoring and it leads to severe accidents and cause of death. According to the sensex, nearly five lakh people are undergoing IV therapy on a day. One of the major problems is monitoring and controlling of ‘*Intravenous Infusion Therapy’* continuously. It is the process in which saline and other drugs are directed directly to the patients blood uniformly through catheter. It is essential to stop the saline flow immediately before the iv bottle is completely drains. If not, it will results in reverse flow of blood into the iv tube which is actually a common occurrence in all hospital due to the lack of individual patient attention. Some of the major problems of IV therapy are over-dosage, reverse-flow of blood, infiltration, phlebitis, occlusion and sleep deprivation and so on. It is mandatory to monitor the complete saline flow and each patient status carefully.

One of the best solutions regarding to this issue is the low cost automated system that can monitors and indicates the level of saline fluid in bottle, by infrared sensors during IV therapy. If the saline fluid is completely emptied, the patient must have a problem of reverse flow of blood through IV tubes, due to improper hand positions or back pressure created due to hand or finger movements. It can be sorted by detecting the blood flow at initial stage by means of sensing the red colour of blood by colour sensor and actuates the motor to stop the saline flow of IV tube by the controller, which is connected to mechanical flow controlling setup. This system is interfaced with IOT and RFID technology. Using IOT, which the assistant can monitors status of patient through Mobile Application and it helps to flawless patient monitoring and by sending an emergency alert when the error occurs in any part of system. Using RFID, hospital management can collects and store all the data about patient and medication details without any manual records.

**MERITS:**

* Pain preventive - every patient deserves a stress-free treatment and recovery.

#### Practically feasible and Seemless Design- Sleek and modern design that blends right into the hospital environment.

#### User friendly -No complex protocols, no confusion control panels, no need for user training.

* Cost efficient and Convenient - adapted to all standards of hospitals.
* Real time problem solving system- may it makes huge revolution in the medical area.
* Easy to backup the entire data of patient(RFID).