AI BASED DIABETES PRETICTION SYSTEM

INTRODUCTOIN:

AI in Diabetes helps to predict or Detect Diabetes. Any neglect in health can have a high cost for the patients and the medical practitioner. It becomes challenging for the patient to trust that this decision is taken by the machine that does not explain how it reaches a particular conclusion.

ABSTRACT:

Now-a-days, people face various diseases due to the environmental condition and their living habits. So the prediction of disease at earlier stage becomes important task. But the accurate prediction on the basis of symptoms becomes too difficult for doctor. The correct prediction of disease is the most challenging task. To overcome this problem data mining plays an important role to predict the disease.

DESGIN AND THINKING:

1. Effective glucose control in the intensive care unit (ICU) setting has the potential to decrease morbidity and mortality rates which should in turn lead to decreased health care expenditures.

AI BASED DIABETES PRETICTION SYSTEM

2. Current ICU-based glucose controllers are mathematically derived, and tend to be based on proportional integral derivative (PID) or model predictive control (MPC).

3. Artificial intelligence (AI)–based closed loop glucose controllers may have the ability to achieve control that improves on the results achieved by either PID or MPC controIIers.

4. We conducted an in silico analysis of an AI-based glucose controller designed for use in the ICU setting. This controller was tested using a mathematical model of the ICU patient's glucose-insulin system.

5. A total of 126 000 unique 5-day simulations were carried out, resulting in 107 million glucose values for analysis.

RESULT:

The 7 control ranges tested, with a sensor error of ±10%, the following average results were achieved: (1) time in control range, 94.2%, (2) time in range 70-140 mg/dl, 97.8%, (3) time in hyperglycemic range (>140 mg/dl), 2.1%, and (4) time in hypoglycemic range (<70 mg/dl), 0.09%. In addition, the average coefficient of variation (CV) was 11.1%.

Conclusions:

This in silico study of an AI-based closed loop glucose controller shows that it may be able to improve on the results achieved by currently existing ICU-based PID/MPC controllers.