Real time Monitoring of the Health of Infants

TREO Talk Paper

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Abstract

Many a time life threatening disease become disastrous because of lack of proper monitoring systems. Continuous monitoring mechanisms can yield real time data which can predict the arrival of diseases easily and control the same before it turns out to be fatal. This work deals with developing such a system which can act as a one stop solution for all diseases which could be monitored with the aid of information on blood tests and culture tests of the same. The device to be developed takes the sample of blood and monitors it in a continuous basis.

The algorithms are designed in such a way that the continuous monitoring becomes the underlying requirement. This can be a disruptive innovation. The blood sample at a point is taken without inflicting much pain. This sample acts as a basis for the underlying tests to be conducted. Such an approach facilitates the prediction of a large number of fatal diseases. Glycaemic control in type 1 diabetes during real time continuous glucose monitoring can be one of the commercial offshoots of such a development. Also, the design which suffices blood culture monitor can be an effective causal predictor for many ailments like typhoid, dengue and such other epidemics. The careful design of the same, targets the pediatric division of the health care. The analysis part has to be designed as a two-step meta-analysis which gives conclusive evidence for the diseases.

It inevitably acts as a vade mecum for the such treatment designs. A real time, wearable ECG and continuous blood pressure monitoring system for first responders (Ribeiro et al 2011) is the primary motivation for such a design algorithm. This instrument elicits huge amount of real time data which inadvertently can act as a effective predictor for any upcoming fatalities. The difficulty in monitoring these parameters for the tiny tots increases the relevance of the research. The device which comes as an attachment like watch can be perfect companion for the kids and keeps a check on their health by the meta-analysis of the data collected.

References

