

Abstract

Electronic medical records can improve and optimize the quality of the Thalassaemia patient care in Sri Lanka. Thalassaemia patients need lifelong, regular hospital admissions for the blood transfusion and chelating therapy. Present paper based system for storing, retrieving, analyzing and dissemination of these Thalassaemia patient data is ineffective, time consuming, space occupying, less reliable and less secure process. This project attempts to overcome those problems by introducing electronic medical record system for the Thalassaemia patients in Sri Lanka.

This project basically introduces an electronic medical record system for Thalassaemia patient management, but it also will act as a patient registry, clinical decision support system as well as a disease surveillance system. The system was designed as a web application with client-server architecture, so it can be accessed by multiple users all over the country. Initially the system was attempted to implement using available free and open source medical record system, but it failed because of the inability of the selected software package to meet the stakeholder needs. Then the system was re designed and developed using MySQL database management system, HTML, PHP and JavaScript for the web application and hosted on Apache server. NetBeans was used as the integrated development environment. All the above listed software tools are free and open source which allowed developing the system within the allocated low budget.

The system can be accessed by most of the computers and hand held devices which have a compatible browser and internet connection. Proper authentication process and user input validation rules were incorporated to prevent unauthorized access and system misuse. Search, analysis, report generation and graphic designing tools were also added to the system to expand its capabilities. The system will also assist in identifying disease prevalence, incidence, trend, and morbidity and mortality details according to geographical distribution.

This electronic medical record system implementation will be one of the pioneering electronic health care applications in clinical use in Sri Lanka, and not only for Thalassaemia, it can be used as a prototype design for other chronic disease clinical data flow management systems.