Emergency Medical Care Information System for Fetal Monitoring

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This paper presents a research work that is concerned to implement an emergency medical care information system for fetal ECG (FECG) monitoring. The research work comprises of three major parts i.e. development of an abdominal ECG (AECG) data acquisition system, networking of transferring and receiving AECG data between patient (client) and physician (server), and improvement of existing techniques for fetal heart rate (FHR) monitoring. The main function of AECG data acquisition system is to acquire the mothers ECG data using a commercial chip called CARDIC and store it in a local terminal. On the other hand, the networking application serves the purpose of transferring the AECG data to the remote terminal via the established connection for remote monitoring and diagnosis purpose. Eventually, the AECG signals are processed in the remote terminal to extract the FECG from the AECG signal for efficient FHR monitoring. The networking system is a client/server application known respectively as Local Patient Monitoring System (LPMS) and Remote Patient Monitoring System (RPMS). It supports transferring of AECG data file and online chatting session. The diagnoses of the reading will be done by the specialists and action can immediately be taken in emergency cases.