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Abstract:
Gestational diabetes is a condition occurring in up to 18% [1] of pregnant women that results in an increase in blood glucose levels due to the body’s inability to produce sufficient insulin given the additional needs of the baby, and/or hormonal changes that lower the body’s sensitivity to insulin. If left untreated, the growing baby may become too large, increasing the risk of injury to the mother and baby during delivery. Controlling blood glucose can be a challenging task, especially for women with no previous experience and who may have unhealthy diets. An opportunity exists to further encourage compliance by providing patients electronic access to data generated during their pregnancy. Previous studies have shown the potential of portals for managing general diabetes [2], but no work has targeted glucose control in pregnant women. We present BabySTEPS (Sugar Tracking Electronic Portal System), a patient portal focused on engaging women with gestational diabetes that provides personalized feedback with the goal of reducing complications at birth and subsequent medical problems resulting from poor glucose control. © 2013 IMIA and IOS Press.

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BabySTEPS: A Sugar Tracking Electronic Portal System for Gestational Diabetes

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Abstract and Objective

Gestational diabetes is a condition occurring in up to 18% [1] of pregnant women that results in an increase in blood glucose levels due to the body’s inability to produce sufficient insulin given the additional needs of the baby, and/or hormonal changes that lower the body’s sensitivity to insulin. If left untreated, the growing baby may become too large, increasing the risk of injury to the mother and baby during delivery. Controlling blood glucose can be a challenging task, especially for women with no previous experience and who may have unhealthy diets. An opportunity exists to further encourage compliance by providing patients electronic access to data generated during their pregnancy. Previous studies have shown the potential of portals for managing general diabetes [2], but no work has targeted glucose control in pregnant women. We present BabySTEPS (Sugar Tracking Electronic Portal System), a patient portal focused on engaging women with gestational diabetes that provides personalized feedback with the goal of reducing complications at birth and subsequent medical problems resulting from poor glucose control.

Keywords:
Patient portal, Diabetic pregnancy, Glucose monitoring.

Methods

BabySTEPS (Sugar Tracking Electronic Portal System) was developed as a web-based application with components for data collection, data exchange, and data visualization. In the pilot version of the system we aimed to present the user with: 1) a graphical representation of their blood glucose history, 2) ultrasound images, 3) fetal growth charts, 4) automated messages to highlight poor glucose control and to encourage good control, and 5) educational information. Patient data collection is performed by clinic staff using REDCap, a widely-used web-based and 5) educational information. Patient data collection is performed during their pregnancy. Previous studies have shown the potential of portals for managing general diabetes [2], but no work has targeted glucose control in pregnant women. We present BabySTEPS (Sugar Tracking Electronic Portal System), a patient portal focused on engaging women with gestational diabetes that provides personalized feedback with the goal of reducing complications at birth and subsequent medical problems resulting from poor glucose control.

References