ISSN 3051-5475

PP-19-MTS

DEVELOPMENT OF A MOBILE APPLICATION TO ASSESS THE RISK OF PREGNANCY-INDUCED HYPERTENSION AND PREVENT ITS COMPLICATIONS.

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Doi: https://doi.org/10.31705/FOMAAS.2024.29

Background: Pregnancy-induced hypertension (PIH) poses significant risks to both maternal and fetal health, making its effective management a critical concern in obstetrics. Advancements in mobile apps enhance the monitoring and prevention of PIH complications. The study described aims to develop a mobile application to assess the risk of PIH and prevent its complications.

Methodology: This innovative tool uses a scoring system based on risk factors identified through statistical analysis with IBM SPSS. Factors such as diabetes mellitus, kidney disease, and family history of PIH were selected as predictors, culminating in a predictive model validated through a descriptive study of 152 pregnant women.

Deliverables: Central to the application's utility is its user-friendly interface, catering to various stakeholders, including pregnant mothers, healthcare providers (doctors, midwives), and clinics. This interface facilitates seamless interaction, enhancing real-time monitoring and proactive management of PIH. The application enables the early identification of high-risk pregnancies, thereby optimizing interventions and reducing complications. The effectiveness of the developed model is underscored by its robust performance metrics, as indicated by the receiver operating characteristic (ROC) curve. The model demonstrates a sensitivity of 71.4% (true positives), and the 1-specificity is 13.0% (false positives) at a cutoff score of 6, yielding an overall accuracy of 90.8%. These metrics highlight the model's ability to correctly identify pregnancies at risk of PIH while minimizing false positives, thus optimizing resource allocation and clinical decision-making. Moreover, the application's incorporation of modern technological features ensures accurate blood pressure monitoring throughout pregnancy, a pivotal component in managing PIH.

Conclusion: The development of a mobile application for PIH risk assessment represents a paradigm shift in prenatal care, emphasizing proactive monitoring, personalized interventions, and ultimately improved outcomes for mothers and fetuses. By harnessing technology, healthcare providers can reduce the burden of PIH complications, setting a precedent for maternal health.

Keywords: Pregnancy induced hypertension, Risk assessment, Mobile application