

## **Clinical Decision Support System for Diagnosing Congenital Heart Disease During Pregnancy**

Zacchaeus Oni Omogbadegun

*Computer & Information Sciences, Software Engineering & Intelligent Systems (Healthcare Informatics Research), Covenant University, Ota, Nigeria*

Heart disease is the third most common cause of maternal death and the leading non-obstetric cause. Some heart conditions, such as pulmonary embolism, arrhythmias, hypertension in pre-eclamptic toxemia and peripartum cardiomyopathy, develop as a complication of pregnancy in previously healthy women. In many developing countries, more than 500,000 women die from complications of pregnancy and childbirth. Nigeria records over 52,900 maternal deaths yearly with a maternal mortality ratio of 1,100 per 100,000 per live births, following her weak and inequitable health systems. Over 90% of Nigeria's maternal deaths are due to haemorrhage, infection, obstructed labour, hypertension, malaria and anaemia. Pulmonary hypertension accounts for the highest maternal mortality from heart disease. Pregnant women combine and use herbal therapy under Complementary and Alternative Medicine due to their dissatisfaction with conventional health care, a desire for treatment and care that work, good relationship with practitioner, provision of information, a desire for greater control over their health, and a desire for cultural and philosophical congruence with personal beliefs about health and illness. Nondisclosure of this practice to physicians could have adverse consequences on the expectant mothers. The safe, effective and efficient delivery of right care is informed primarily by sound clinical decision making. Optimum collaborative management of pregnant women with heart disease is expedient. This paper presents a clinical decision diagnosis system supporting Complementary and Alternative Medicine practitioners using medicinal plants under family-oriented community-based services; population-oriented outreach and schedulable services; and individually-oriented clinical services delivery modes to effectively handle congenital heart diseases during pregnancy.