Prevalence of hypertension in Rwandan population using Gibbs method

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Abstract:
Hypertension in Africa was estimated at 30.8% in 2010 with a dramatic increase in some regions ranging between 36.2%-77.3% (Adeloye Basquill, 2014). In Rwanda, the prevalence of hypertension was estimated to 15.0% in 2015, (Nahimana et al., 2017). In Rwanda, there is no model that can help decision-makers to know the behavior of hypertension in the future. The objective of this study was to predict the prevalence of hypertension in Rwanda for 10 years using the Markov Chain Monte Carlo method and other related diseases. Data used were from Gibbs method for sampling helped to find the transition matrix. It was found that the prevalence of hypertension, tobacco use, overweight, obesity, and another subject will be predicted 17.82%, 26.26%, 17.13%, 4.80%, and 33.99% in 2025 respectively. This implies that Rwanda needs to take the measure of healthy diets and physical exercises to prevent and reduce the prevalence of the diseases.

Biography:
Angelique Dukunde is working in the African Center of Excellence in Data Science, University of Rwanda, College of Business and Economics. She is a Ph.D. student in Data Science (Biostatistics) and Lecturer of Mathematical and Statistical courses at the College of Business and Economics-University of Rwanda.

Speaker Publications:

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