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Relationship between systolic blood pressure, age, body mass index, and blood glucose content: An empirical approach

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This paper modeled the relationship between systolic blood pressure, and three explanatory variables which are age, body weight, and blood glucose content using multiple regression analysis as statistical tool. High blood pressure is often called a silent killer because at the initial stages, it exists with no symptoms. It is only after an organ in the body is irritated or badly damaged, that the consequences of high blood pressure are realized hence, the impetus for this research work 200 patients were randomly sampled from four randomly selected Teaching Hospitals in Nigeria. The regression model is: $SBP = 69.38654 + 0.5867624 * Age - 0.01646795 * Weight + 0.372442 * Glucose$. Coefficient of

determination ($R^2=0.669$) i.e., 60% of the variations in Y were adequately explained by the explanatory variables. The result of the analysis further revealed that age and glucose level contributed significantly on the regression plane. It was also discovered that jointly, the entire coefficients contributed significantly on the regression plane. Conclusively, it was recommended that much intake of sugar in our meals should be avoided, stressful lifestyle should be jettisoned, and the habit of periodical checking of our blood pressure should be cultivated.

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