



MANIPAL INSTITUTE OF TECHNOLOGY

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MANIPAL - 576 104, KARNATAKA, INDIA

MARCH 2017



******* GENSINI SCORE PREDICTION*******

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I. INTRODUCTION

Role of Metabolic Obesity and body mass index in patients of various age group with coronary artery diseases.

Metabolic obesity (Insulin resistance syndrome).

Indian subcontinent is highly predisposed to this condition.

Prevalence of Insulin resistance syndrome among Indians ($\geq 30\%$).

Among females is higher than males (50%).

II. PROBLEM DEFINITION

Train a model capable of predicting the GENSINI score which determines the severity of CAD in the following groups-

- *Metabolically Healthy Normal Weight (MHNW)*
- *Metabolically Obese Normal Weight (MONW)*
- *Metabolically Healthy Obese (MHO)*
- *Metabolically Abnormal Obese (MAO)*

Gensini Scoring:

It is a scoring system for determining the severity of coronary heart disease.

It provides an accurate stratification of patients according to the functional significance of their disease.

It provides an opportunity to match patients with similar degrees of coronary artery disease who are receiving different forms of treatment.

III. OBJECTIVE

To find the group showing a good association to severity of Coronary artery disease that is which category is more prone to CAD, metabolically obese or phenotypically obese.

To find the prognostic markers for CAD among factors like HBA1C, FI, HOMA IR, TC, TG, HDL, LDL and hsCRP and which group shows more association.

Several models were used for predicting the GENSINI scores from the given features and using regression and neural networks.

- *Ridge Regression*
- *LASSO Regression*
- *Neural Networks*

IV. SCOPE/IMPORTANCE OF PROJECT

There are no study done in India in relation to importance of metabolic obesity and BMI status with severity of Coronary artery disease.

Helpful to find how the Insulin resistance, hsCRP and Lp(a) is associated with the severity of Coronary artery disease.

Effect of Lifestyle modification on Body Mass Index and Waist Circumference in post angioplasty patients.

V. REFERENCES

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