Escalating age influences the trends of blood pressure, blood glucose and blood cholesterol among the obese Malaysian adults: findings from National Health and Morbidity Survey 2015

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ABSTRACT:

INTRODUCTION: It is well known that with increasing of age, the levels of blood pressure, blood glucose and blood cholesterol increased. Studies also showed that obesity affects the level of blood pressure, blood glucose and blood cholesterol. The aim of this study is to investigate the distribution of blood pressure, blood glucose and blood cholesterol across different age group and their relationship with obesity among the Malaysian adults.

METHODOLOGY: Data were obtained from the National Health and Morbidity Survey (NHMS) 2015, a nationwide cross-sectional survey that implemented a two-stage stratified random sampling design. We analysed the data from 12,871 Malaysian adults without chronic diseases aged above 18 years who participated in the NHMS 2015. General Linear Model was employed to the test the differences of blood pressure (includes Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP)), blood glucose and blood cholesterol across age groups. One way ANOVA/Independent t-test was performed to compare the mean of blood pressure, blood glucose and blood cholesterol between normal and obese group for each age group.

RESULTS: Our data demonstrated increasing trend of Systolic Blood Pressure ($p<0.001$), Diastolic Blood Pressure ($p<0.001$), Glucose ($p<0.001$) and Cholesterol ($p<0.001$) across different age groups. Further analysis revealed that individuals aged between 18 and 29 years old who were obese have higher mean level of SBP($p<0.001$), DBP($p<0.001$), Glucose (0.007) and Cholesterol($p<0.001$). We further observed that the mean of DBP and Cholesterol for aged group of 30 to 39 has significant different between obese and normal individuals, while mean of SBP and Glucose have higher to the obese group aged between 50 and 59 years old as compared with the normal group.

CONCLUSION: In conclusion, our data showed the levels of SBP, DBP, glucose and cholesterol increased with escalating age among the obese Malaysian adults. Future study is needed to validate the findings from this present study.

KEYWORDS: Blood pressure, Blood Glucose, Blood cholesterol