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A retrospective study of diabetes in middle-aged and elderly urban population in Hainan, south China

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ABSTRACT Objective: To investigate the distribution characteristics and epidemic trends of diabetes in middle-aged and elderly urban Hainanese, and to explore the correlations between diabetes and hypertension or hyperlipidemia in this kind of people. **Methods:** Middle-aged and elderly urban Hainanese (35–74 years old) were examined at the Medical Center of the Second Affiliated Hospital of Hainan Medical University from 2013 to 2017. According to the World Health Organization (WHO) Diabetes Diagnostic Criteria 1999, subjects with fasting blood glucose (FBG) level ≥ 7.0 mmol/L (126 mg/dL) were diagnosed as diabetes. The retrospective analysis of the collected cleared data was conducted by using *chi*-square test, single factor correlation analysis and multiple linear regression analysis methods [gender: X1 (male=1, female=2); age: X2 (35–44=1, 45–54=2, 55–64=3, 65–74=4)]. The test level was set as 0.05. All data were standardized by age according to the 6th National Census Data 2010. **Results:** A total of 69 077 middle-aged and elderly observations' data in 2013–2017 were collected. The detection rates of diabetes were 8.28%, 8.89%, 10.71%, 8.29%, and 9.21% respectively by year ($\chi^2=41.850$, $P < 0.001$), among which the detection rate of diabetes was the highest in 2015. The detection rates of diabetes showed significant differences among age groups (2.90% for age 35–44, 8.34% for age 45–54, 15.48% for age 55–64, 18.98% for age 65–74, $\chi^2=602.63$, $P < 0.001$) and gender (8.4% for male *vs.* 4.1% for female, $\chi^2=287.41$, $P < 0.001$). FBG level was linearly related to gender ($B=0.127$, $P < 0.001$, 95% *CI* 0.51–0.58) and age ($B=-0.105$, $P < 0.001$, 95% *CI*: -0.51– -0.37). According to standard coefficient, age had a larger impact on FBG level ($B_{age}^*=0.177$, $B_{gender}^*=-0.760$). Rank correlation analysis showed there were weak correlations either between diabetes and hypertension (correlation coefficient $r=0.161$, $P < 0.001$) or hyperlipidemia (correlation coefficient $r=0.106$, $P < 0.001$). **Conclusions:** The detection rate of diabetes in middle-aged and elderly urban Hainanese increased in the past five years and it was linearly related with gender and age; weak correlations between diabetes and hypertension or hyperlipidemia were observed. Further prospective studies should be done in the future.

Keywords: Retrospective study; Epidemic trend; Diabetes; Middle-aged and elderly; South China

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