Obesity, lifestyle behaviors and dyslipidemia among Chinese adults aged 45 and older

CURRENT STATUS: POSTED

Pengtao Liu
Weifang Medical University

lpt1978@126.com Corresponding Author
ORCiD: https://orcid.org/0000-0003-0190-0935

Yinghui You
Weifang Medical University

Qinghui Meng
Weifang Medical University

Chunhua Tian
Sichuan Center for diseases Control and Prevention

Junjie Wang
Chineses Center for Disease Control and Prevention

Guifeng Ma
Weifang Medical University

DOI:
10.21203/rs.2.17925/v1

SUBJECT AREAS
Health Policy

KEYWORDS
Dyslipidemia, lifestyle behaviors, obesity, China.
Abstract
Background This study investigated the importance of obesity and lifestyle behaviors in affecting dyslipidemia among adults aged 45 and older in China. The strength of our study is in using the decision tree model to clearly rank the importance of those key factors affecting dyslipidemia.

Methods Data were taken from the China Health and Retirement Longitudinal Study. A total of 9,038 adults were included in the study. Logistic regression was used to examine the associations between obesity, lifestyle behaviors and dyslipidemia. Decision tree was built to select the best scheme on prevention of dyslipidemia.

Results Based on body mass index (BMI), 33.98% of Chinese age ≥ 45 years old were overweight and a further 12.73% were obese. Logistic regression analysis showed that participants who were obese (AOR 6.82, 95% CI 3.67–12.37, P<0.0001), with hypertension stage 2 (1.53, 1.23–1.90, P=0.0001) and lived in main city zone (2.68, 2.22–3.22, P<0.0001) were more likely to have dyslipidemia;
Participants who usually took part in vigorous activity (0.66, 0.54–0.80, P<0.0001) or did moderate/light activity more than 2 hours one day (moderate: 0.66, 0.53–0.84, P=0.0005; light: 0.79, 0.65–0.97, P=0.0231) were less likely to have dyslipidemia. Decision tree analysis showed that enhancing physical activity could effectively reduce the rate of dyslipidemia among people with overweight or obesity.

Conclusions Overweight and obesity are rapidly growing threats in China. Regular physical activity could positively affect dyslipidemia and produce desirable health status. This will be beneficial evidence for educating those who do not or cannot perform regular and substantial physical activities.

Full Text
Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the manuscript can be downloaded and accessed as a PDF.

Figures
Figure 1

Variable importance on prevention of dyslipidemia.
The structure of the decision tree model. Red categories indicate the prevalence of dyslipidemia and green categories indicate the prevalence of no dyslipidemia; Age (1: 45-54, 2: 55-64, 3: 65-74, 4: ≥75); Residence (1: Main city zone, 2: Other, 3: Village); Gender (1: Male, 2: Female); BMI (1: <18.5 kg/m2, 2: 18.5―23.9 kg/m2, 3: 24―27.9 kg/m2, 4: ≥28 kg/m2); Blood pressure (1: Normal BP, 2: Elevated BP, 3: High BP/Stage 1, 4: High BP/Stage 2); Vigorous/moderate/light activity at least 10 minutes, vigorous/moderate/light activity over half an hour/2 hours/4 hours one day (1: Yes, 2: No); Drinking frequency (1: Never, 2: <1/month 3: >1/month); Sleep duration (1: <7 hours, 2: 7-10 hours, 3: ≥10 hours).