

## ORIGINAL ARTICLE

# A Descriptive Study of Total Serum Homocysteine Status in Adult Henan Province, China

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### SUMMARY

**Background:** Hyperhomocysteinemia (HHcy) is an independent risk factor for cardiovascular disease. Total serum homocysteine (tHcy) status varies greatly with ethnicity and gender. Here, we studied the tHcy status by investigating concentration of tHcy and calculating prevalence of HHcy according to different age groups and genders. **Methods:** This is a cross-sectional study of 10,258 participants (7,248 males and 3,010 females) above 19 years old from Henan Province, northern China. tHcy levels were determined enzymatically. HHcy was defined as a tHcy level higher than 15  $\mu\text{mol/L}$ .

**Results:** In the whole population, the median value of tHcy was 13.56 (11.50, 16.50)  $\mu\text{mol/L}$ , and the HHcy prevalence was 34.61%. Males had much higher tHcy levels than females: 14.51 (12.58, 17.71)  $\mu\text{mol/L}$  vs. 11.23 (9.75, 12.97)  $\mu\text{mol/L}$ ,  $p < 0.001$ . Also, males had much higher HHcy prevalence than females (44.33% vs. 11.20%,  $p < 0.001$ , OR = 6.33, 95% CI: 5.59 - 7.14). HHcy prevalence and tHcy levels increased greatly for both genders above 60 years old.

**Conclusions:** Our results demonstrated that prevalence of HHcy is very high in northern China. Implementation of tHcy-lowering strategies is needed.

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## Supplementary Tables and Figures

Table 1. The age range of the randomly selected healthy control subjects for serum vitamin B12 and folate levels analysis.

	n	Age (year)				
		Min	Max	Median	Mean	SD
Vitamin B12	120	20	82	48.5	47.23	12.53
Folate	133	20	83	30	32.19	8.77

Table 2. Descriptive data of serum vitamin B12 and folate levels in the randomly selected healthy control subjects.

	n	Serum levels				
		Min	Max	Median	Mean	SD
Vitamin B12 (pg/mL)	120	215.20	1100.60	484.35	503.91	144.53
Folate (ng/mL)	133	4.63	28.87	14.41	14.39	5.05