

## Letter to the Editor

### **Coronary heart disease, genes not to be blamed totally!**

Madam, coronary heart disease (CHD) is on rise in young Pakistanis<sup>1</sup> and associated factors range from non modifiable as genetic makeup to modifiable ones like life style. Modifiable factors can play a major role in prevention of CHD. Studies have shown that deficiency of folate contributes twice as much to CHD related mortality in Asians as compared to Europeans.<sup>2</sup> Adolescence is the stage of life when life style habits are developing and can be moulded which can prevent CHD later in life.

Proposed biological mechanism of association of folate deficiency with CHD is through methylation cycle. Foliates are essential cofactors in methylation cycle, required for conversion of homocysteine (an amino acid) to methionine. Levels of homocysteine in blood are controlled by methylation cycle; in folate deficiency cycle could not be completed resulting in hyperhomocysteinemia.<sup>3</sup> Homocysteine promotes fatty deposits in blood vessels by damaging inner lining of arteries and promoting blood clots leading to CHD.<sup>1</sup>

Daily requirement of folate is 400µg<sup>2</sup> and diet rich in fruit and vegetables can fulfill this requirement. A study showed that 80% of Pakistani adolescent's diet is poor in fruit and vegetables.<sup>1</sup> Determinants of folate deficiency are lack of awareness about consequences of unhealthy diet, lack of access to healthy food, poverty, cultural pattern and now inclination towards junk foods. WHO reports that increasing fruit and vegetable consumption upto 600 g/day could reduce burden of CHD by 31%.<sup>4</sup> Healthy diet can be promoted by educating adolescents about importance of fruits and vegetables in diet. Strategy should be to involve youth by focus group discussions,

awareness campaigns in educational institutes and media.

Folate fortification of staple food like wheat is also a cost-effective method. In US after folate fortification proportion of patients with hyperhomocysteinemia reduced from 41% to 28%.<sup>5</sup> UK department of health recommended fortifying flour with folate at 2400 µg/kg. Pakistan government has planned to introduce folate fortified wheat flour by the year 2013. But in Pakistan due to high degree of decentralization of food processing, it is difficult to regulate the fortification programme. So efforts should be made to strictly monitor the fortification process and make fortified food available to all sectors of society at affordable prices.

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### **References**

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