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**Abstract**

PURPOSE: To test a community population for the hypothesis that carcinogenesis is related to blood folate levels.

METHODS: Prospective analysis of cancer mortality data for a cohort of 964 men (person-time follow up: 20,254 years) and 1024 women (person-time follow up: 24,970 years) and morbidity data for a subcohort, all of whom participated in the 1969 Busselton (Western Australia) Health survey. Outcome measures were adjusted hazard ratios according to baseline folate levels for total cancer mortality and morbidity and site specific mortality and morbidity for colorectal, lung, breast, and prostate cancers.

RESULTS: In total, there were 278 cancer deaths45 from colorectal cancer, 44 from lung cancer, 15 from breast cancer, and 31 from prostate cancer. Decreased serum folate levels showed an independent association with increased prostate cancer mortality risk, the adjusted hazard ratio per decrease of 2 mg/L was 1.56 (CI: 1.05, 2.38), men whose levels were in the lowest quartile had an adjusted hazard ratio of 4.79 (CI: 1.56, 14.43) for subsequent death from prostate cancer. The morbidity subcohort data showed that decreased red blood-cell folate was significantly associated with increased events due to breast cancer, the adjusted hazard ratio per decrease of 100 mg/L was 1.96 (CI: 1.22, 3.12), women in the lowest quartile of red cell folate levels had an adjusted hazard ratio of 6.46 (CI: 1.19, 35.07) for a subsequent breast cancer event. Mortality and morbidity from colorectal or lung cancers were not associated with folate levels.

CONCLUSIONS: Independent associations, assessed over periods greater than 20 years, were demonstrated between decreased folate levels and increased risks of prostate cancer mortality and breast cancer morbidity.