

PUBLIC HEALTH ABSTRACTS

Professor James S. Lawson, Professor and Head of the School of Health Services Management at the University of NSW, has prepared the following abstracts from the literature.

POPULATION GROWTH AND ENVIRONMENTAL DISASTER

Tony McMichael of Adelaide has written an elegant paper summarising the likely consequences of world population growth and environmental degradation during the next 40 years. The world population, now 5.5 billion, is going through its third and greatest sustained surge and is projected to reach 9 billion in 2030 and 11 to 12 billion later next century. About 90 per cent of that growth will occur in the poor third world where pressures on dwindling supplies of arable and pasture lands are extending erosion, desertification and other forms of land degradation. Meanwhile, energy consumption and waste generation have reached vast proportions in the rich first world, raising concerns about the global impact of changes in the atmosphere leading to a rise in temperatures and ozone depletion.

Accordingly, McMichael argues that those with responsibilities in the public health field need to extend their interests to population control and environmental degradation. He reminds us that the disasters ahead have happened before on a local scale. The best example is the Tigris and Euphrates river basin which was a flourishing civilisation 5,000 years ago. Irrigated agricultural systems supported major cities but led to soil salinity followed by deforestation, a rise in the water table, further salt accumulation and a ruining of the agricultural heartland.

McMichael AJ. Global environmental change and human population health: a conceptual and scientific challenge for epidemiology. *Int J Epidemiology* 1993; 1:22:1-8.

NEGATIVE LINK BETWEEN CANCER AND ELECTRICITY TRANSMISSION EQUIPMENT

Several studies have provided evidence for a possible relationship between exposure to electric fields and the promotion of leukaemia and other cancers. A Dutch-based study has considered this matter and found no evidence which supports such an association.

Schreiber GH, Swaen GMH, Meijers JMM, Slangen JM et al. Cancer mortality and residence near electricity transmission equipment: a retrospective cohort study. *Int J Epidemiology* 1993; 1:22:9-15.

SCREENING FOR FAECAL BLOOD REDUCES MORTALITY FROM COLORECTAL CANCER

Although the concept of faecal blood detection has existed since 1864, there was little interest in its application until 1967 when it was proposed that a home use test involving paper impregnated with chemicals would be made available. However, since that time there has been no direct evidence whether such screening reduces deaths from colorectal cancer. A major United States study involving about 50,000 participants over a 13-year period has shown that annual faecal blood testing decreased mortality from colorectal cancer by 33 per cent.

Mandel JS, Bond JH, Church TR and Snover DC. Reducing mortality from colorectal cancer by screening for faecal occult blood. *New Engl J Med* 1993; 328:1365-1371.

HUMAN PAPILLOMAVIRUS AND CERVICAL CANCER

There is strong evidence that some types of the human papillomavirus are associated with cervical cancer. A recent study has confirmed this evidence and has strongly indicated that other infectious agents which continue to be identified from women with cervical cancer are not as significant. Despite the availability of this evidence the association of human papillomavirus and cervical cancer is not widely known.

Jha PKS, Beral V, Peto J, Hack S et al. Antibodies to human papillomavirus and to other genital infectious agents and invasive cervical cancer risk. *Lancet* 1993; 341:1116-1118.

A GENETIC BASIS FOR FAMILIAL BREAST AND OVARIAN CANCER

The gene for inherited susceptibility for breast and ovarian cancer has been identified. Women with such an inherited predisposition have a nearly 60 per cent likelihood of getting breast or ovarian cancer by age 50. Fortunately, this is a fairly rare gene. A reasonable recommendation for such women is intensive surveillance for early cancer. Additional interventions might include mastectomy and chemotherapy.

Li FP and Garber JE. Cancer genetics: gene for familial breast and ovarian cancer. *Lancet* 1993; 341:1060-1061.

SLEEP DISORDERS — A MAJOR PUBLIC HEALTH PROBLEM

A National Commission on Sleep Disorders was established by the American Congress in 1988. The commission has reported that major sleep disorders are common and serious. The most important is obstructive sleep apnea. This disorder is characterised by the recurrent cessation of respiratory airflow during sleep which causes a collapse of the upper airway. The loss of airflow is usually followed by awakening. The cycle may be repeated as many as 200 times during 6-8 hours of sleep. The obvious consequence is excessive daytime sleepiness. This has the practical consequence that people fall asleep while driving and those with the condition are involved in traffic crashes two to three times more often than the general population. These new studies indicate that about 4 per cent of women and 9 per cent of men have the condition.

Phillipson EA. Sleep apnea — a major public health problem. *New Engl J Med* 1993; 328:1271-1273.

FAT AND HEART DISEASE BEGINS IN AUSTRALIAN CHILDHOOD

Gliksman and colleagues have completed a study of more than 5,000 schoolchildren on an Australia-wide basis. It shows that among highest socio-economic groups there is a lower total energy intake and dietary fat intake than in lower socio-economic groups. In addition, the highest socio-economic groups of children had diets that were relatively rich in unrefined carbohydrates. In turn they had more favourable cardiovascular risk factor profiles. Accordingly, differences in dietary intake may be important in explaining the socio-economic gradient in the risk of cardiovascular disease.

Gliksman MD, Lazarus R and Wilson A. Differences in serum lipids in Australian children: is diet responsible? *Int J Epidemiology* 1993; 2:22:247-254.