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Prof Colin Binns
Prof Andy Lee
School of Public Health
Curtin University
Perth, Western Australia
c.binns@curtin.edu.au

Ovarian Cancer and other gynaecological cancers impose a significant health burden on women in Australia and internationally. This submission will concentrate on ovarian cancer, since this has been our primary area of research. The AIHW has projected that between 1400 and 1500 new cases will occur annually in Australia (1). The advances of biomedical science, early diagnosis programs and improved therapies have considerable potential to improve women's health. Indeed it is likely that within the next decade further advances will be made in understanding the molecular basis of ovarian cancer and in improving therapy. However we believe that the Committee should not ignore the achievements that could be made by strengthening Australia's health promotion programs.

We recommend that more resources be given to health promotion programs in Australia to modify lifestyles. Lifestyle change offers the possibility of reducing the incidence of ovarian cancer by a substantial amount (say 50%) over a medium to long-term time frame.

We would like to bring to the committee's attention a number of papers that we have published on the prevention of ovarian cancer over the past few years (2-11). We would be able to provide copies of specific papers if required. Our research was undertaken in China, because the large population there provides us with a large number of cases. Nevertheless, we believe that our results will be applicable to Australia as many of the results are similar to those from other parts of the world.

On the basis of our research the Curtin School of Public Health has been made a member of the International Consortium for the Study of Ovarian Cancer based at Oxford University.

General health promotion targets that will reduce ovarian cancer:

1. Breastfeeding. Increasing the proportion of mothers who breastfeed and who breastfeed for longer will decrease ovarian cancer (8). The National Breastfeeding Strategy has now been discontinued for lack of funding. It should be refunded with the specific target of increasing breastfeeding duration. Breastfeeding is also one of the best strategies for reducing obesity (see 2 below for obesity as a risk factor) .

2. Obesity. The government has committed considerable resources to obesity prevention. This will reduce ovarian cancer (9). The obesity prevention strategy includes exercise (see 3. below) and breastfeeding (see 1. above) which will also independently protect against ovarian cancer.

3. Exercise. Increasing the proportion of women who exercise will reduce ovarian cancer. We have investigated moderate levels of exercise, such as are promoted in general health promotion programs and found them to reduce the incidence of ovarian cancer (11).

4. Diet. A diet that includes more vegetables and fruit will reduce the rate of cancer. In particular we have demonstrated that nutrients found naturally in other fruit and vegetables, will reduce ovarian cancer (4, 7, 10).

5. Consumption of tea. We have demonstrated that women who drink green tea (3 cups/day) have lower rates of ovarian cancer (12). Women who develop ovarian cancer who continue to drink tea, have a longer survival (5). The effectiveness of green tea in prevention and treatment has now been demonstrated in animal and in vitro studies. The USFDA has reviewed the evidence and given our studies a high mark for quality. We have recently reviewed the emerging evidence for the benefits of tea in ovarian and prostate cancers and we believe that the evidence for the role of tea will strengthen (13, 14). Tea causes no harm, and as it is a commonly consumed beverage, Australians should consider increasing their tea consumption.

Most of these changes are the same as the Australian Dietary Guidelines, which have been developed to improve the overall health of Australians (15, 16). Many of these

activities are included in the SIGNAL/NPHP nutrition plan ***Eat well Australia***, a combined initiative of the States and Commonwealth. Unfortunately because of lack of funding the meetings of SIGNAL have recently been suspended. This has left Australia without a national nutrition advisory committee at a time when nutrition issues are more important than ever for the health of Australians.

In conclusion there are a number of national health promotion targets that would substantially reduce the incidence of ovarian cancer. In particular, we urge the committee to promote breastfeeding, increased tea drinking and dietary change consistent with the Australian Dietary Guidelines. These measures will not only benefit the fight against ovarian cancer, but also other forms of cancer and heart disease.

We would be happy to address the committee or provide other information as required.

References:

1. McDermid I. Cancer incidence projections, Australia 2002 to 2011. Canberra: Australian Institute of Health and Welfare (AIHW); 2005.
2. Zhang M, Binns C, Lee A. Tea Consumption and Ovarian Cancer Risk: A Case control Study in China. Cancer Epidemiol Biomarkers Prev 2002;11:713-718.
3. Zhang M, Binns CW, Lee AH. Dietary patterns and nutrient intake of adult women in south-east China: a nutrition study in Zhejiang province. Asia Pac J Clin Nutr 2002;11(1):13-21.
4. Zhang M, Lee AH, Binns CW. Reproductive and dietary risk factors for epithelial ovarian cancer in China. Gynecol Oncol 2004;92(1):320-6.
5. Zhang M, Lee AH, Binns CW, Xie X. Green tea consumption enhances survival of epithelial ovarian cancer. Int J Cancer 2004;112(3):465-9.
6. Zhang M, Xie X, Lee AH, Binns CW. Sedentary behaviours and epithelial ovarian cancer risk. Cancer Causes Control 2004;15(1):83-9.
7. Zhang M, Xie X, Lee AH, Binns CW. Soy and isoflavone intake are associated with reduced risk of ovarian cancer in southeast china. Nutr Cancer 2004;49(2):125-30.
8. Zhang M, Xie X, Lee AH, Binns CW. Prolonged lactation reduces ovarian cancer risk in Chinese women. Eur J Cancer Prev 2004;13(6):499-502.
9. Zhang M, Xie X, Lee AH, Binns CW, Holman CD. Body mass index in relation to ovarian cancer survival. Cancer Epidemiol Biomarkers Prev 2005;14(5):1307-10.
10. Zhang M, Yang ZY, Binns CW, Lee AH. Diet and ovarian cancer risk: a case-control study in China. Br J Cancer 2002;86(5):712-7.
11. Zhang M, Lee AH, Binns CW. Physical activity and epithelial ovarian cancer risk: a case-control study in China. Int J Cancer 2003;105(6):838-43.

12. Zhang M, Binns CW, Lee AH. Tea consumption and ovarian cancer risk: a case-control study in China. Cancer Epidemiol Biomarkers Prev 2002;11(8):713-8.
13. Lee A, Fraser M, Binns C. Possible role for green tea in ovarian cancer prevention. Future Oncology 2005;1(6):771-777.
14. Lee A, Fraser M, Meng X, Binns C. Protective effects of green tea against prostate cancer. Expert Review of Anticancer Therapy 2006;6(4):507-13.
15. Binns CW(Editor). Dietary Guidelines for Older Australians. Canberra: NHMRC; 1999.
16. NHMRC. Food for Health: Dietary Guidelines for Australian Adults. Canberra: NHMRC; 2003.