

A review of moderate drinking in respect to The Million Women Study

By Dr Philip Norrie

The Sydney Morning Herald recently ran an article by Stephen Smith on "To drink or not to drink?", reflecting many articles' themes from across the globe this summer. To drink alcohol is obviously an individual's choice but if people are looking to the evidence of benefit versus harm then we need to look at the full picture and put any new findings into proper perspective. We can then advise ourselves, others or our patients accordingly.

It is only in the past few decades, with the advent of clinical studies, that we can objectively measure any effect and put this to the test. The pinnacle of clinical studies in establishing a benefit or harm is the randomised clinical trial (RCT). RCTs are great for studying interventions, such as prescription medicines and surgical procedures, but they are impractical or impossible to conduct when we are looking at lifestyle living such as what we eat and drink and how we exercise. We therefore rely on the next best methods to study lifestyle interventions where we follow populations (cohorts) over time; these are called epidemiological prospective studies. Here the population under study records his or her own intake of food and drink usually with a daily or weekly diary over time, not ideal but informative.

The first of the major epidemiological studies began in 1948 and continues to observe the townfolk in Framingham, Massachusetts, USA. One of the newest epidemiological studies is the Million Women Study from the UK which began over 10 years ago. Earlier this year, the Million Women Study attracted a lot of media attention because the authors claimed that it was the first large study to examine what the association is between alcohol intake and cancer in women.¹ In this study, women were followed up for an average of 7 years and the investigators observed and reported a small increase (6%) in the incidence of all cancers. Of interest, what was found but not discussed in the published paper and hence not reported in the media, is that women who drank alcohol in moderation (i.e. 1 or 2 drinks a day) actually had a 6% lower incidence of all cancers when compared to those who drank no alcohol. Instead the investigators focused on the association between higher levels of alcohol consumption and cancer, namely the 6% increase. Many reporters and therefore the general public have

missed the important message that sensible or low to moderate drinking of 1–2 glasses a day, according to this study, does not increase cancer risk.

Notwithstanding, the 6% reported increase in cancer is an important signal that deserves further investigation. Those cancers that had an increase of more than 10% were of the mouth and throat, oesophagus, larynx, rectum, liver and breast. Those cancers that decreased were thyroid, non-Hodgkin lymphoma and renal cell carcinoma. The authors concluded that the overall risk to women aged 55 is that in the next 20 years about 1- or 2 women in every 100 will develop an additional cancer. Not surprisingly the increased risk of cancers to the mouth and throat, oesophagus and larynx were found in those women who also smoked. Although these cancers are associated with increasing alcohol consumption they cannot be attributed solely to alcohol intake. This leaves us with an increase in rectal, liver and breast cancers. Of interest is that for those women who drank wine exclusively (and not beer or spirits) there was no increase in liver, colon or rectal cancers. Thus much of the associated 6% increase in all cancers was associated with breast cancer and this was regardless of the type of alcohol consumed. It is important to note that the Million Women Study focused on women attending breast cancer screening clinics where it is more likely that breast cancer will be positively diagnosed. As the authors noted there may be a plausible explanation from stimulating a release of oestrogen which may cause an increase in a subset of hormonal dependent breast cancer.

Before the results of the Million Women Study were published there have been reports linking a moderate to heavy alcohol intake to an increase in breast cancer. However, the effect of light consumption remains uncertain, especially if women have adequate folate intake.

For example, if we look at the first major epidemiological survey (The Framingham cohort) the incidence of breast cancer when compared with those who drank no alcohol actually decreased by 20% in those women drinking less than half a glass of alcohol and by 30% for up to one and a half glasses a day, irrespective of whether they drank wine, beer

or spirits.² Of interest too, is that in over 50 years in monitoring the Framingham population there has been a decrease in the average intake of alcohol but an increase in wine consumption.³

It is important that we put the findings of any small but notable increase in breast cancer (11 per 1000 women over 20 years) from the Million Women Study into a broader health perspective. Cardiovascular disease accounted for 36% of all deaths in 2004⁵ in Australia for example, with about 40,000 women and men dying from this disease each year.⁶ 12,170 cases of breast cancer were diagnosed in 2005 and the death rate in that year was 2,707 which represents about 2.1% of all deaths (and 4.2% of all female deaths).⁷ Thus, women are far more likely (about 7-fold) to die from cardiovascular disease than breast cancer.

The clinical evidence for living longer (measured as a lower mortality rate) with moderate consumption is demonstrated in numerous studies. For example, the Copenhagen City Heart Study found that the risk of dying decreased by as much as 53% in those who drank 1–2 glasses of wine a day.⁸ Although the benefit on fewer deaths has been reported in both men and women,^{8,9} the evidence for cardiovascular disease, cerebrovascular disease and all-cause mortality may be more established in men.^{10,11} A study published this year following men for 40 years calculated that consuming 2 alcoholic drinks a day was associated with extending their life for a further 5 years.¹¹ It is essential that moderate drinking is just one component of a healthy lifestyle of course - including eating pattern, not smoking, staying slim and increased physical activity.

The medical benefits of low to moderate consumption (1–2 drinks a day) apply to those aged 55–69 years as they are more likely to benefit the most from the reduction in cardiovascular death rates in terms of lives 'saved' and 'years of life extended'.⁶ This benefit also extends to women and men for other types of cardiovascular disease such as blood flow to the brain (reduces stroke in a susceptible age group of 60–69 years of age in both men and women),¹² to the legs (protecting from intermittent claudication, pain on walking, a sign of peripheral vascular disease,¹³ and to the hands (Raynaud's phenomenon).¹⁴ Moreover, the health benefits from moderate consumption may extend beyond the vascular tree to preventing bone loss,¹⁵ insulin resistance in diabetics, DVTs, dementia,

Parkinson's, blindness from macular degeneration, gallstones, kidney stones, renal failure, colds and upper respiratory tract infections, and so on.¹⁶

The health benefits of light to moderate alcohol intake on cardiovascular disease are clear and supported by the body of clinical evidence. Plausible mechanisms for the cardiovascular benefit range from lowering the ability of the blood to clot¹⁷ to raising good HDL-cholesterol,¹⁸ and increasing omega-3 fatty acids.¹⁹ Interestingly, for women it may be the increase in oestrogens that accounts for the positive effects on cardiovascular disease in healthy postmenopausal women.²⁰

Thus it is important that when any new study comes along, such as the Million Women Study, its results should be put into proper context within the growing body of clinical evidence. We can then advise our patients appropriately that if we adopt one lifestyle over another then there may be inherent benefits or harms. We look forward to further follow-up of the Million Women Study and the results from new studies investigating the effects of moderate drinking.

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