Alcohol: The Fixer Elixir

Strong Impressions But Weak Statistics

It is now more than a century since someone – it might have been Mark Twain or Benjamin Disraeli - first said of untruths "There are three kinds of lies: lies, damn lies, and statistics." A more modern update might well be "there are three kinds of statistics: misstatements, mistruths and meta-analysis."

Meta-analysis is a mathematical exercise where a bunch of scientific studies are lumped together to see if results from individual studies hold up when the data from the whole group are statistically massaged and manipulated as one. Sometimes it works and other times not. Reasons data from original studies do not hold up vary from errors in the originals to bias on the part of the meta-analysists who poke holes in the original research for personal, social, or political agendas. Meta-analysists can discredit original studies without the reviewers doing any basic research in a given area by selectively including or excluding prior work to support the reviewers' views.

These were some of the thoughts that came to mind when I read a meta-analysis of alcohol studies entitled "Do Moderate Drinkers Have reduced Mortality Risk? A Systematic Review and Meta-Analysis of Alcohol Consumption and All-Cause Mortality" in the March 2016 *Journal of Studies on Alcohol and Drugs*. This impressive-sounding research based on other people's research was conducted by Tim Stockwell Ph.D, and others. Stockwell, a psychologist in Victoria, Canada, has long been skeptical of the notion of health benefits from alcohol. In 2013, for example, Stockwell wrote a commentary in the *International Journal of Epidemiology* seriously challenging "the hypothesis that moderate drinking is good for health?"

There are several things to consider about this latest meta-analysis from Stockwell et al. The first is the authors make the premise that previous studies that showed a J-shaped statistical health benefit for moderate drinkers as compared to teetotalers were flawed because the researchers lumped together people who had never drunk along with current abstainers as one group instead of separating them out. The authors then postulated (without any direct evidence) that some of the former drinkers (now abstainers) may have stopped the sauce because of declining health (and therefore had increased mortality which skewed the results.)

The premise may be true – but the meta-analysis here did not prove it.

A second factor is that of all the studies these authors could have chosen to study they included only 87 out of hundreds available, and found that of these only 13 gave them enough good data to work with. That in itself is a shortcoming.

Finally, the authors write "These findings have implications for public policy, the formulation of low-risk drinking guidelines, and future research on alcohol and health"- verbiage which suggests the authors have an axe to grind. Despite the authors not conducting any direct alcohol and health study of their own, this study of other studies has attracted attention and led to troubling secondary spin in the general media. Broad brush attacks from this now declare "A little alcohol may not be good for you at all" and "people who imbibe self-congratulations with

their chardonnay are deluding themselves" – assertions which go beyond the scope of this modest meta-analysis.

Cheers!