Alas our research and its carbon footprint!

Pierre JT de Villiers

I attended a "strange" kind of ceremony recently, where two members of our faculty, Bob Mash and Elizabeth Wasserman, planted three trees in front of our faculty building in Tygerberg. In September 2007 they travelled to Kampala to participate in the *Network: Towards Unity For Health Conference.* On their return they convinced the Faculty to accept that buying trees to offset research related travel carbon emissions was a legitimate expense, and purchased 3 trees using their research funds. I would like to share with all readers of SA Family Practice their explanation:

"The relentless rise in global carbon emissions is predicted to continue over the next 10 years. By 2015, if there is no reduction, then the impact on the world's climate will be both uncontrollable and catastrophic.[1] In the health sector the main risks are the direct effects of extreme weather conditions, changes in patterns of infectious diseases, effects on food production and freshwater, displacement of vulnerable populations and loss of income.[2] Adverse effects in low income countries are likely to be much higher loss of healthy life years is predicted to be 500 times more in Africa than in Europe.[2]

The scientific community is in agreement that this phenomenon is due to human activity and is driven by a host of factors such as the burning of carbon fuels to make electricity, as part of industry or to transport ourselves and our products using the internal combustion engine.[3] This, for example, is compounded by ever rising demand for more electricity and cars as well as inefficient and wasteful use of these resources. The rising demand is driven by increases in population as well as development, which adopts the same environmentally harmful practices.

One of the major contributors is air travel due to the burning of jet fuel.[3] Additional effects of planes on the atmosphere such as the condensation trails increase the warming effect by a factor of 2.7.[3] While most other human activities such as use of cars or production of electricity have already developed alternative technologies that can reduce emissions there is no current alternative for travel by plane.[3] At the same time, air travel has become cheaper and amongst the more affluent part of the population common place. A single return plane journey from Johannesburg to London produces an individual's annual quota of carbon - if we assume a quota based on the reduction necessary to avoid uncontrollable climate change. The unavoidable, if unwelcome, conclusion for the small part of the population who travel by air is that **"if you fly, you destroy other people's lives".**[3]

Academics and researchers are amongst the group of regular flyers and because climate change will have major public health impacts, should especially reflect on the need to fly.[4] Researchers travel primarily for two reasons, firstly as part of conducting research, particularly when there is international collaboration and secondly to present research at conferences and meetings. In the last year I have made the decision not to travel to international conferences as the environmental impact far outweighs the academic one. One of our major regrets is not being able to visit new or exotic places. However keynote addresses can also be given by video conferencing or similar technologies. How many research projects consider their carbon footprint or include it in the budget?

Assuming as academics and researchers that we significantly reduce our overall flying time, it is unrealistic to demand an absolute prohibition. When air travel is necessary it has been proposed that planting trees can offset the effect. This is because mature trees over time will capture the carbon in their growth that was produced by air travel. While it is not yet an exact science, a number of websites such as http://www.trees.co.za enable you to calculate the number of trees necessary to "offset a particular flight".

Research highlights in this issue

Changing human behaviour can be notoriously difficult - ask any family physician! Doctors use all kinds of strategies to influence the behaviour of their patients, ranging from simply giving information, gentle persuasion, and sometimes even coercion. In this issue two articles suggest a more humane and effective alternative, namely **"motivational interviewing".** In his invited editorial Stephen Rollnick explains the roots and reasoning of this relatively new technique, based on the principle of eliciting from patients "their own good reasons to change".[5] Mash et al applied motivational interviewing in **prevention of mother to child transmission (PMTCT) in a Southern African context.**[6] They used an action research approach to determine "how successful the PMTCT counsellors were in integrating MI skills into actual counselling sessions and what lessons can be learnt regarding how to conduct training". They demonstrated how difficult it can be for health practitioners to change themselves! From their experience nine key recommendations are made to guide further research and practice in this area. Notably one of them is "counsellor's readiness to change should be assessed and explored at the beginning of training and periodically", to prove the point.

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