WN *Columns*

World Nutrition Volume 4, Number 5, May 2013

Journal of the World Public Health Nutrition Association
Published monthly at www.wphna.org

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As I see it

Philip James

Access March 2013 Philip James on the Eastern Mediterranean here

Cairo. This is where I am writing this column. For details of my continued work with the World Health Organization Eastern Mediterranean region, scroll down below please. First, here are some thoughts about global issues that confront us all now.

World public health nutrition strategy

Goals for 2025

In this and future columns I look ahead. This July there is a European Council of Ministers summit meeting on food and nutrition strategy. This September the International Union of Nutritional Sciences holds its four-yearly conference, in Granada, Spain. Next year there is the second International Conference on Nutrition hosted by the UN Food and Agriculture Organization in Rome. Many of us will be busy writing position papers, presenting lectures, debating declarations. More than ever there is do much to do. But to what end?

At this time in the bid to re-establish public health policy as an intrinsic feature of governmental responsibility, it is not easy to be optimistic. All those of us concerned with food and nutrition policy, need to recognise that we are not alone in coping with the new post-Cold War 'acceptance' of so-called 'free market' economics. Those are involved in climate change, financial affairs and the problem of worsening inequity, all of which threaten food security, may well wonder how we can deal with our field let alone support other public interests, when the political/industrial juggernauts are intent on profits and power, to the detriment of society as a whole.

How can we take a lead and play a part in creating flourishing food industries that help to prevent and control rampant food insecurity, malnutrition, obesity and all the other adult chronic diseases? Well, first we have to face reality and accept that current policies that are supposed to be helpful, are rendered hopelessly ineffective by endless compromises with apparently overwhelming industrial interests.

We need to become much more resolute. We also need to see the big picture. Public health cannot improve, and public goods will not be protected, until the whole mind-set that has bewitched governments of the most powerful countries, and therefore of almost all dependent countries, changes. Goals for 2025 can be achieved only if we succeed with many others committed to public health and the public interest, in shifting the goalposts and in other ways changing the rules of the game. This should be our challenge not just for this year and next, but for many years to come.

In Cairo now, working with dedicated colleagues, I realise that they are facing even greater barriers to change, in countries many now in turmoil, with established systems of governance ripped up. So I start by painting a picture of a few of their problems.

Chronic non-communicable diseases

Eastern Mediterranean in crisis



Cairo. From tranquillity to turmoil. A city of mosques (left). (Right) The cauldron of up to a million people celebrating the fall of president Mubarak

For the last few months I have been working with Ala Alwan, regional director of the World Health Organization's Eastern Mediterranean region of 23 countries, and his colleagues in Cairo and elsewhere in the region. The work is to consider how to combat the epidemic of obesity and chronic non-communicable diseases that is now, overwhelming these countries in the Middle East and North Africa.

Ayoub Jawaldeha, the WHO nutrition leader for the region, has extracted data from collated national surveys. These show that throughout the Eastern Mediterranean region at least 25 per cent of adult males smoke, with Tunisia highest in the rankings at

57 per cent. By contrast, rates of smoking among women rarely are above 5 per cent except in Lebanon where the rates are 30 per cent.

In the region, signs of serious disease, and actual disease rates, are alarming. In many countries over 30 per cent of 15-60 year olds are hypertensive, and 10-20 per cent of adults have high levels of fasting glucose (at or above 7 mmol/litre) which indicates diabetes. Prevalence of high risk for heart disease was worse, with 20 to nearly 50 per cent of adults having high blood cholesterol levels (at or over 5.2mmol/litre).

Physical activity questionnaires also suggest that one-third to two-thirds of all adults are inactive. So with the transnational food product corporations targeting the region, it's no surprise to see some of the highest female obesity rates in the world, with prevalence often up to 40 per cent for women aged 15-60 years.

These appalling figures alone suggest the need for radical changes in public policies and specifically in food systems and supplies. But it is much worse and more complicated than that. A total of 20-40 per cent of children aged below 5 years are stunted (1) and one-third or more of all women are iron-deficient, so there is a major public health problem of anaemia. These rates of childhood malnutrition and anaemia were even worse 20 or more years ago, as Ala Alwan himself reminded me. It makes sense to assume that the whole region's population has suffered from pandemic malnutrition, with all its long-term consequences, when they were young.

Although iodine deficiency seems to be coming under control, thanks to a huge drive to iodise salt, very little emphasis has been given to vitamin D deficiency especially in women. In Lebanon for example 70-90 per cent of women have low vitamin D levels (3,4). In other countries the problem may well be worse, with most babies in the Middle East being born vitamin D deficient, with little prospect of receiving a boost in intake when they are breastfed (5).

A region in turmoil



Afghanistan. The invasion continues, the war drags on (left). Bahrain. The Formula 1 race deal is seen by protestors as a cover for corrupt government

Last month Cairo I participated in two overlapping meetings. The first concerned the need to reduce consumption of salt, as discussed in *my column in March* this year, and of *trans* fats. The second took a broader view of chronic non-communicable disease prevention and control, to include legislation on tobacco, and physical inactivity. Everybody in the meetings must have had in mind the wars, uprisings and turmoil in Afghanistan and Pakistan, Syria, the Yemen, Somalia and the two Sudans and Iraq. Also, the Arab Spring has dislocated most government planning and the work of officials in Tunisia, Morocco, Libya and Egypt, as well as Bahrain where demonstrations against the government on the day I am writing this are disrupting the Formula 1 championship motor race.

It's difficult to get away from the feeling that maybe it's better to focus on those countries with relatively stable political and economic structures. Maybe some of us also found it hard to avoid sometimes feeling that at this time in the history of the region, little can possibly work well.

Dynamic plans for action

Happily for the region, Ala Alwan is not a defeatist. Having led the WHO drive for the UN high-level meeting in New York in September 2011 on prevention and control of chronic non-communicable diseases (6), he will not stop at grand political declarations, but sees these as a start. He wants effective action and real sustained progress in this region, which is suffering what may well be the worst escalation in disease burden of any WHO region, with little sign that governments are getting a real grip on the issues. Perhaps I am wrong, but my impression is that so far only Iran has demonstrated real focus and coherent initiatives.

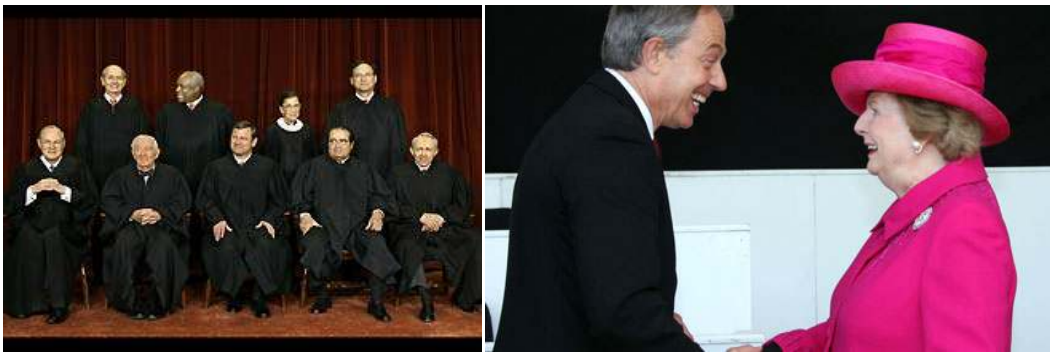
One challenge is to persuade governments that they have a responsibility and a main role, and that their leadership needs to be decisive in order to achieve any slowing down, let alone reversal, of rates of heart disease, stroke and diabetes first within 3-5 years, and then with greater falls in disease rates over the longer term between 2015 and 2025.But after talking with many superbly trained physicians in the region, I have the impression that governments have opted out of maintaining the health of their people, except in terms of medical and other health care services. Public health has not featured at all.

Who do health goals suit best?

When the current WHO Action Plan (7) was being developed at WHO Geneva when Ala Alwan was the responsible assistant director-general, he sought to identify clear, practical and 'cost-effective' policies and actions. In the rush for consensus, just three themes emerged: reduction in dietary salt to prevent strokes and heart disease; reduction or removal of *trans* fats from food supplies; and public awareness campaigns to promote dietary change and less physical inactivity.

This sounded like a good start. But unfortunately from my point of view (and that of previous WHO analyses), the proposals smacked of US policy-making. Reduction of salt and *trans* fats in processed products is indeed a response to the Political Declaration of the UN 2011 high-level meeting (6). But these moves simply implied the need for only food product reformulation. They suit food product manufacturers but can only be considered a start in public health policy making (8). How on earth the Action Plan came up with the idea that public awareness of good diets and the importance of physical activity can be a 'cost-effective' measure, I cannot think unless they sought to show that the educated and affluent in society can respond to these messages .

What blocks progress in the US and the UK



The US Supreme Court (left) gives corporations the same 'freedom of speech' as individuals. Margaret Thatcher (right) congratulates successor Tony Blair

Yes, it is true that in the past, public health campaigns did help in promoting changes in dietary fat. Here I can bear witness as a former chair of the UK Coronary Prevention Group and also of the UK National Food Alliance. But these changes often simply reflected prudent decisions by manufacturers to produce or market low fat milks, and margarines with changed fatty acid compositions. Estimates from the Netherlands, at the time when I assessed for their government the work of the national research institute TNO, indicated that least half of the changes in fatty acid composition from the 1960s onwards came from reformulation of margarine and other processed products.

It is also true that campaigns to reduce saturated fat intake in the US, initiated as from the 1960s by the research and campaigning of Ancel Keys, Jerry Stamler and many others, working in organisations such as the American Heart Association, succeeded in reducing the volume of total fat and saturated fats in the US food supplies and thus US diets. These campaigns are agreed to have reduced rates of heart disease in part by stimulating the food industry to reformulate products to get rid of the dreaded cholesterol effect(9), but these also had the effect of increasing the amounts of sugar and of refined starches in processed products. Their net benefit is now disputed.

In the US, as legal colleagues from Boston have explained to me, campaigns are acceptable given the Constitutional right of free speech. But actual material gains often depend on legal challenges or increasingly effective civil society organisation action. In the US Congress, the government body responsible for legislation, and the political establishment generally, are very heavily influenced by big business, as recent blocking of gun control laws after mass murder atrocities has once again made clear. Astonishingly, a fairly recent US Supreme Court ruling defines a corporation as having the right of free speech equivalent to that of an individual citizen. The difference is money. And after the arms and energy industries, the biggest industrial lobby groups in the US are Big Agriculture, Big Food – and still, Big Tobacco.

The traditional concept in Europe and also once in the US, that government duty includes protecting and promotion social well-being, has now almost vanished in the US and unfortunately in other countries also. In the UK, my own country, we are still suffering from the notorious statement of Margaret Thatcher, prime minister throughout the 1980s, that 'there is no such thing as society'. Her successor Tony Blair, prime minister from 1997 to 2007, in 2006 followed her lead and was even more explicit, saying 'Our public health problems are not, strictly speaking, public health questions at all. They are questions of individual lifestyle– obesity, smoking, alcohol abuse, diabetes, sexually transmitted disease. These are not epidemics in the epidemiological sense. They are the result of millions of individual decisions, at millions of points in time' (10). Further, the current UK prime Minister David Cameron told my team from the International Obesity Force, and subsequently the public, that obesity is the personal responsibility of the individual. This was despite the UK Chief Scientist's explicit rejection of the notion that obesity is the exclusive or even a primarily individual responsibility (11).

Salt and trans fat reduction

The art of the possible



Just some of the annual global production of 200 million tonnes of salt (left). Middle Eastern culture can be very different from that of the West (right)

Given this background, once I arrived in Cairo to work with the nutritional and public health experts, clearly it was politically appropriate to start with plans for salt and perhaps *trans* fat reduction, even though neither would do anything for other important dietary aspects of chronic non-communicable diseases.

This should be an important start, despite being disputed by my brilliant colleague Salim Yusuf of McMaster University in Canada, who wants major population intervention trials before any action is taken (12).He is demanding this despite the clear evidence from intervention studies of the reduction in blood pressure on reducing salt intakes as in the DASH metabolic studies (13), and in a community trial of village bakers' reducing salt in bread in Portugal (14), and in many national intervention studies such as those in Finland.

I remember hearing the wonderfully persistent Jozef Joossens lecturing about his persuading all the bakers and butter-makers in Northern Belgium to reduce their use of salt, as he monitored the regional and then national falls in salt consumption, monitored by 24 hour sodium measurements (see below) and the resultant dramatic fall in blood pressures (15).Now we have results from the remarkable work-site interventions in China, albeit so far reported only in preliminary form(16) where there has been a 74 per cent fall in stroke mortality rates within 5-7 years in steel workers when their salt (and fat) intake was reduced in the canteen food and they were encouraged to persist with this at home.

Some of you may remember my grilling one of the authors of this study, D Gu of the GenSalt Collaborative Research Group, in the International Obesity Task Force/WHO during the 2009 ICN Congress in Bangkok. I pushed him with the challenge that all he had done was to treat the high blood pressure workers with pills and this was why the stroke death rates had fallen so dramatically. He refuted this, highlighting that by far the majority of the workers had borderline high blood pressures, and he was reporting the changes in blood pressure and death rates from strokes and heart disease in this group. He confirmed that the primary changes were dietary, although they had also advised those workers who smoked to stop.

So in practice the challenge in Cairo is whether we can persuade the governments of the region to take the Chinese and European evidence of dramatic changes in death rates after substantial salt reductions. We need to get them to see that we are not talking about waiting decades for change, but on a national basis maybe only 3years or so. We are reasoning that if the benefits of nutritional interventions are seen and accepted, with a subsequent fall in the rates of stroke, then governments in the region may be encouraged to put other public health measures into place and not concentrate only on pouring money into treating all the diseases in their ever more demanding health services. This would be a start.

What! No data!

So we have started with salt. But we ran into our first obstacle. It turns out that there are practically no data on salt consumption in the region! Estimates of national average consumption vary, and also (see below) these have been derived from dubious surveys. For instance, the figure for Lebanon is a low 7 grams a day as a national average which, having been there several times, I cannot believe. Average figures of 17-19 grams a day for Jordan and Egypt were easier to believe, though horrifyingly high.

Box 1

Salt: recommended limits

For decades now, UN and other international reports have agreed that a sensible upper limit for salt intake, as an average population level, is 5-6 grams a day (17-18). Sodium is an essential nutrient, but this top level for salt, corresponding to 2 to 2.4 grams a day for sodium, is a pragmatic recommendation consistent with the evidence, much higher than is normally required physiologically.

The most important impact of regular consumption of salt above recommended levels, is a raised blood pressure (hypertension) leading to an increased risk of stroke (cerebrovascular disease), one of the top killer diseases in many countries. The evidence that these conditions are caused by high salt consumption is not seriously disputed (19,20) by any expert international group.High salt intakes, also in the form of salt and sodium compounds, and salty and salted foods and products, are also agreed to be a probable cause of stomach cancer, still a common cause of death in many countries (21).

The latest UN report on salt, by the World Health Organisation expert advisory 'NUGAG' group, was issued in 2012 (22) with our receiving in Cairo the printed copies now available from WHO. This confirms the daily 2 grams sodium / 5 grams salt upper limit figure. Even if the guesstimates for national average saltconsumption in Eastern Mediterranean countries mentioned here are higher than actual consumption – and experience suggests that they are more likely to be underestimates – the crisis in these countries is starkly apparent.

We had with us Graham MacGregor, the visionary founder of Consensus Action on Salt and Health (CASH) and World Action on Salt and Health (WASH) (23) who is an indefatigable and often outspoken promoter of the public health benefits of salt reduction. The one reliable method to assess salt consumption involves collection and analysis of urine over a 24 hour period (See Box 2). We were astonished that there were no data based on 24 hour urine measurements readily available, and depressed by an immediate rejection of the need to use this one reliable method.

When Graham and I said that we had done numerous 24hour sodium measurements on ourselves, and set out the protocols for collecting urine originally developed in the 1970s and early 1980s when in the UK I was assistant director of the Medical Research Council Dunn Clinical Nutrition Centre in Cambridge, we began to realise that we were talking from a totally different cultural setting. Clinicians and nutritionists at our meeting explained that it was out of the question for cultural reasons to ask people to collect their urine for more than an hour or two. They said that if any urinary measurements were taken, these would either have to be from early morning urine samples, or spot urines taken when people attended clinics or research centres. That was as far as they could go.

In response, we set out the WHO/PAHO protocol(24) for collecting 24 hour urines, which make clear that spot or early morning urine samples are known to be hopeless predictors of what is found with proper 24 hour urinary collections. We highlighted the importance of using suitable sized containers and having appropriate carrying bags for taking them to and from work and social events.

But all this sometimes seemed like a 'dialogue of the deaf'. People in this part of the world are simply not willing to act in such ways. While this is frustrating, we can either say there is no point in kicking against established cultural beliefs, all the more so when these are based on religious precepts, or we can start a process of medical/ nutritional thinking where the concept of personal enquiry and investigation leads to a new way of thinking and a sense of coping with challenges rather than saying it cannot be done.

The implication is that some preliminary estimates of crude average national salt consumption in the Eastern Mediterranean region will have to be based on industry figures of salt produced and what of this goes into consumption, minus a percentage for salt used for other purposes or wasted, and with calculations allowing for imports and exports. This method is fraught with problems, not least because of the vast volume of different salty products being imported, and in itself gives no information about variations among different population groups.

Following these discussions about urinary measurements I stayed on to meet a group of senior physicians and public health policy makers led by Ala Alwan himself. We found that many physicians undertake quite sophisticated tests on their patients but, as I have found in other regions such as the Caribbean, there was no immediate ability to provide data on 24 hour urine sodium measurements even though 24 hour urine collections are essential for several diagnostic procedures. (Again, see Box 2).

So in Cairo we started to try to estimate the principal sources of salt, using national nutrition studies conducted in the region within the previous decade. Some nationally representative studies havebeen undertaken, but only the team in Kuwait have reliably collated the key foods which contain substantial amounts of salt.

Box 2

Exact measurement is essential

My experience in Cairo has been an eye-opener. It made me realise that in common with colleagues of my generation I have been brought up in a professional setting where clinical research often started by developing simple techniques and testing them on ourselves before any patient was subjected to the procedure.

When as from the early 1970sI worked at the London School of Hygiene in John Waterlow's nutrition department, we collected urine samples and infused ourselves with radioactive tracer amino acids, glucose, fatty acids and so on, before any patients or volunteers were subjected to such tests. Later at the Dunn Clinical Nutrition Centre in Cambridge, many of us went through the full rigmarole of living for days in whole body calorimeters, checking on the variability of metabolism, and the range of thermogenic flexibility if environmental temperatures or food intakes changed.

So for us, measuring urine excretion for 24 hours as a means to develop biological markers in the assessment of dietary questionnaires was routine. In my Cambridge days Sheila Bingham, John Cummings and I began to look critically at food intake measurements. Sheila concluded that the use of questionnaires asking people to recall what they ate and drank during a full day (the 24 hour dietary recall method) was extremely unreliable (25). She tested our proposal that we develop new methods of estimating food intake from measuring minerals and other excretory products in the urine but ensuring that these urine collections are complete by assessing the value of giving para-aminobenzoic acid (PABA) as a pill to ensure its almost complete collection in the urine over the 24 hr period (26).

Soon Sheila became our guru of dietary methodology. We were helped by Bjorn Isaksson from Gothenburg, Sweden, who did much with urinary nitrogen and potassium measurements to check validity of dietary history analyses and detailed weighing of foods. Most of us carried urine bottles and food scales around with us as we went to conferences and dinner parties! This was essential to check the validity of estimates based on what people stated they consumed, which we came to find included large errors, leading to hopeless misinterpretation of dietary intakes.

Indeed, by the time we had worked out the true energy requirements of people, starting with their measured or estimated basal metabolic rate, it became apparent that questionnaires used by globally famous experts were hopelessly inaccurate. I well remember doing some quick calculations and realising a third of the responses in one huge now world-famous cohort study were not compatible with survival and, if followed, would mean that the individuals would promptly go into an unsustainable period of semi-starvation. Medical researchers these days are used to ordering tests on subjects, but now rarely if ever do doctors subject themselves to the tests , as we did, so that they can understand the techniques and how to improve them, and minimise patient or volunteer discomfort.

Also, current 'industrial' epidemiological surveys involving many thousands of subjects over many years, produce wonderful results calculated to an nth degree of statistical significance, but depend on very simple self-administered questionnaires which can and do produce sometimes wildly inaccurate basic estimates.

To my horror there is now an increasing tendency to base policy making based on these so- called wonderful cohort studies of diets in relation to reported disease. These studies are often riddled with errors. The brilliant statistician Nick Day, working first in charge of statistics at the International Agency for Cancer Research in Lyon, France, and subsequently running the Medical Research Council biostatistics unit and public health division at the Cambridge Medical School, has proved that these cohort studies dominated by questionnaires can produce wonderful statistically significant but wholly spurious correlations, because of accumulated and sometimes amplified errors of the methods used. Just having big studies does not mean one can be cavalier about dietary methodology and the responses on whether the volunteers really have diabetes, high blood pressure or not.

As far as I know, there are no studies of salt consumption estimated from food diaries, orusing the notoriously crude 24 hour recall method, assessed against sodium excretion rates as measured in 24 hour urines. Physicians, nutritionists and dietitians need to be trained in basic methods, using standard WHO/PAHO guidelines (27).Again similar initiatives proved to be rare in the region with the dietetic / nutritional community clearly intent on individual care and not issues of public health

Public health measures

Getting real in the Middle East



High-tech medicine (left) and traditional healing (right) in the Middle East. Public health for the future needs to be effective and also accessible for all

My strong dose of reality in the Eastern Mediterranean, especially in Middle Eastern countries, has given me a lot to think about. For a start, it obviously won't work to

import ideas and methods and ways of doing things, from other parts of the world which are far, far different in many ways, without seeing how to develop them in an appropriate local context. Perhaps this should be obvious all along.

Paradoxically though, the many eminent medical schools and nutritional groups in the Middle Eastern and North African region, in common with other parts of the world, have I feel rather rigidly accepted nutritional and medical thinking dominated by an exclusive focus on individual patients and their needs. This makes it very hard to get public health ideas across to these influential people, some of whom are national government advisors. Another associated problem is policies and actions that are far from being joined-up. Thus the food fortification programmes and the iodisation of salt in the region, apparently have involved completely different groups operating with WHO, UNICEF and for example the Micronutrient Initiative.

Let me emphasise that the Middle East is not alone in this. Having visited and worked with many African, Asian and Latin American nutrition and medical centres for some decades, I am sure that this problem of rigid specialisation is almost universal, and has been made much worse in recent decades by the bleeding of public health resources and withdrawal from government and professional commitment to collective endeavour in the public interest (28).

The Middle East is benefiting from a few highly very committed and intelligent professionals for example in Kuwait, who are championing the rapid initiation of salt reduction. But where are more leaders and more resources to be found, especially in the lower income countries throughout the global South?

These issues are important and urgent, as I hope I have shown here. We cannot wait for a whole new generation of investigative physiologists, nutritionists and doctors trained with a new ethos of research and practice. Besides, where are the teachers of such new professionals to come from?

Perhaps the lesson here is that we must all get real and do the best with what we have got, starting with ourselves – and I feel rather strongly that there should be a revival of the once time-honoured practice of self-experiment and self-knowledge, rather than sometimes blind reliance on high-tech machines, most of all in least-resourced countries. But sometimes these columns will end with an appeal for progress through discussion, including in the Feedback section of *WN*. So for now I end here.

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Status

Conflicting or competing interests: none. Readers may make use of the material in this column if acknowledgement is given to the Association. My thanks as usual to WN editor Geoffrey Cannon for careful and creative editing, and supply of background details and illustrations relating to the themes of the column for more general readers

Please cite as: James WPT. World public health nutrition strategy. Goals for 2025, and other items. [As I see it]. *World Nutrition* May 2013, 4,5, 231-244. .Obtainable at www.wphna.org. .All contributions to *World Nutrition* are the responsibility of their authors. They should not be taken to be the view or policy of the World Public Health Nutrition Association (the Association) or of any of its affiliated or associated bodies, unless this is explicitly stated.

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