

EDITORIAL

WHAT CAN BE LEARNED FROM THIRD WORLD
RHEUMATISM?

STUDIES of the distribution and prevalence of rheumatic diseases in various and sometimes remote parts of the world can be justified in seeking clues to causation and pathogenesis. The epidemiologist hopes to trace significant differences in the incidence of say rheumatoid arthritis or osteoarthritis and when such differences are established, environmental or genetic 'risk factors' can perhaps be identified. It must be admitted that in 1986, for those needing to study people under widely different environmental conditions of wealth and comfort, the gap between what in United Nations' terms are the 'have' and the 'have not' nations has scarcely altered. The third world as much as anywhere has witnessed dwindling health budgets resulting from the downturn in world economy following the (first) oil crisis in 1981 aided by drought, political instability and social unrest. Thus the travel conscious epidemiologist has excellent opportunities to test a variety of environmental factors and even more ideal, migrant groups of tribal or racially similar people who have moved from rural villages to the dubious advantages of an urban setting. In addition, we can study the 'boat people' of present or past times who escape the hazards of an uncertain food supply to become absorbed into the industrially developed countries where occupational stresses, gout, obesity and osteoarthritis take their toll.

Are we being patronizing, however, in seeking clues in the third world to diseases that absorb most of our clinical interests in 'high tech' clinics of developed countries? Why not use our resources to study *their* significant local problems such as for example the exotic sounding condition called Kashin-Beck disease which in a recent WHO report was said to affect 2 million people in the People's Republic of China? This is an arthritis commencing mainly in children and reported to be linked to the consumption of food produced in endemic areas—and presumably therefore preventable [1]. Could there be a message for us here or in the endemic crippling generalized osteoarthritis called Mseleni disease which occurs in southern Africa?

Epidemiological studies in developing countries, if we do take the plunge, are hampered by

cultural differences in the interpretation of pain and other symptoms such as morning stiffness. Illiteracy, linguistic difficulties, lack of access to basic serology or radiology all pose problems in using standard criteria for disease definition. What about RA then? The present suggestion is that clinical RA in the rural blacks of Africa is rare or mild but in similar tribal and therefore genetically related urbanized groups (in Soweto) the prevalence and severity appears comparable to that found in temperate zones [2, 3]. For Chinese people, Professor Chang Nai-Cheng of Beijing has observed that compared with Caucasians, SLE appears to be more prevalent but RA is less aggressive and that seronegative arthritis is less common in China [4]. A comparison of RA out-patients in our Melbourne unit with those of Dr. Chen Shun-le in Shanghai provides evidence that RA is of greater severity in Australia [5]. A more classical population-based study may be necessary for this point to be proven beyond doubt and for the reasons, be they genetic or environmental, to be identified. Are high altitudes or a cold climate risk factors for more severe RA as the study in Lesotho suggests [6]?

In this journal Dr. Rajapakse makes a number of interesting observations based on cases attending an out-patient rheumatology service at a university hospital in Riyadh, Saudi Arabia [7]. RA is the predominant inflammatory joint disease and, as in the Chinese, is said to be of milder nature in comparison to Caucasians. Ankylosing spondylitis is probably rare but then HLA-B27 is uncommonly found in Saudis where it appears in only 1-2% of the population. As for OA, the knee joint is frequently affected whilst the hip is rarely involved. The low incidence of OA of the hip joint has been quoted for some Chinese and African populations and there has been speculation in the literature on whether squatting, which spreads the intra-articular pressure evenly over all the areas of the hip articular cartilage, is of some advantage to the hip. Alternatively, squatting, sitting cross-legged and kneeling in prayer, may subject knee cartilage to greater and more damaging pressure [8]. Brucellosis turns out to be an important and fre-

quent cause of acute low back pain in Riyadh and this point is taken up in more detail by Dr. Rajapakse and colleagues in a further article in this issue [9]. A paper from Iraq also reminds us that brucellosis and brucella arthritis remain a significant health problem in certain parts of the world [10].

Brucellosis is clearly endemic in farm animals and is spread by unpasteurized milk and home-made cheese. Such problems are not confined to designated developing countries and in the last year our unit in Melbourne treated two sisters who had developed brucellosis with spinal pain from eating home-made goat cheese whilst holidaying with relatives in Italy. Dr. Rajapakse concentrates on spinal brucellosis and describes 44 cases seen at a university hospital in 3 years presenting with back or hip pain. In 72%, radiographs were normal and it appears that patients with serologically proven acute brucellosis who present with back pain can be free of fever and have no abnormalities on technetium bone-scan nor on radiography.

Of the 58 patients studied by Dr. Al-Rawi *et al.*, polyarthritis occurred in 33 and was migratory in 10. Monoarthritis of the hip or knee occurred in 10 and spinal involvement alone occurred in 15. The peripheral arthritis was usually transient in nature and only one hip joint showed 'mild destruction'. Destructive lesions were commoner with vertebral disease but neither study describes any attempt to isolate organisms from involved synovial fluid, synovial membrane or the damaged vertebra. The destructive vertebral body lesions with or without discitis suggest an osteomyelitis even if microbiological evidence is lacking. However, one interesting point of speculation is whether the spondylitis represents part of a reactive arthritis. A previous report from Hungary indicated an increased frequency of spondylarthritis in chronic brucellosis associated with HLA-B27 [11]. However, a Peruvian study [12] did not confirm this. In the Iraqi study HLA typing did not reveal any specific associations with arthritis or spondylitis but figures are not given. In the Saudi series tissue typing was performed to identify series for critical comment. Dr. Rajapakse [7] makes the interesting point that brucellosis is a commoner cause of infective arthritis than tuberculosis and that rheumatic fever is relatively uncommon in Riyadh. Patient selection is always a problem in such studies but as far as rheumatic fever is concerned, for a disease which has registered such a high profile

in developing countries, it is strange that the COPCORD studies conducted in rural areas of the Philippines and Indonesia (which survey total populations at a community level rather than in hospital practice) have shown so little [13].

I am not sure that Saudi Arabia is seen in the West as a third world let alone a developing country. I make no claim for China's position in these undefinable categories either. However, one message we do receive loud and clear from our work in Asian rural and urban communities is the importance for health care of the support from the immediate and slightly more extended family. I am not alone in suggesting that what needs to be encouraged in the West is an increasing interest in the revival of family care systems, not just as an economic solution to these problems, but rather as a mark of increasing social awareness and maturity.

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THE POTENTIAL OF COMPUTER APPLICATIONS IN RHEUMATOLOGY

RHEUMATOLOGISTS are becoming increasingly aware of the potential advantages of introducing computer methods to all aspects of their work; administrative, clinical and research. In this issue of the Journal the results of a survey of computer use by members of the British Society for Rheumatology (BSR) are reported [1]. Over half of all rheumatology departments already had a computer (or access to one); while two thirds of those without were contemplating acquiring one. However, while manufacturers have continued to produce increasingly efficient equipment at lower prices and in a more compact form, the development of software packages suitable for the rheumatologist's requirements seems to have progressed very little. The conference on 'Computers in Rheumatology', held in June 1986 at the London Hospital Medical College and sponsored by the BSR and the Arthritis and Rheumatism Council for Research (ARC), was therefore a timely opportunity to bring together clinical rheumatologists, statisticians, epidemiologists and experts in the computer and related fields.

The programme, arranged over two days, opened with brief reviews of the operation and potential of computers. These were followed by a series of presentations describing clinicians' experiences of introducing computers into their own clinical practice. A 'hands on' practical demonstration period was included. On the second day the conference split into five separate workshops addressing specific aspects of computerization (diagnostic index, audit, medical records, clinical research and data analysis). Each was chaired by and composed principally of clinical rheumatologists, but included a number of specially invited participants with statistical and computer expertise. All reported back to a final plenary session.

This mixture of personal experience, technical know-how and enthusiasm for potential

development combined to demonstrate that computers are able to assist in many tasks relevant to rheumatological practice. These range from improving the administration of appointment systems to the complex statistical analysis of large data sets for research purposes.

Three basic computer abilities can be harnessed to assist our works: data storage and retrieval; repetitive calculation and interaction with the user. The ready availability of clinical data stored on disc certainly has its advantages, but it also brings problems. Some of these are simply administrative—who types the data in? Who gets it out again? Other problems are more fundamental and deal with questions such as which data are to be stored, in what format and to what end? Because of these difficulties, systems are likely to be successful only if they are well defined and limited in their aims.

The calculating power of computers brings multivariate analysis to the fingertips of those with minimal numeracy. This method of analysis is one in which many variables are compared simultaneously, taking account of the different relationships between them. It provides a number of powerful tools with great potential for discovering new associations which are otherwise difficult to perceive [2]. On the other hand, using the computer in this way has hidden dangers which make it far from straightforward. The ease and rapidity with which summary results can be provided mask their dependency on the underlying assumptions made in the analysis. If these assumptions are incorrect, or an analysis is employed inappropriately, the results and conclusions can be seriously misleading. It would be a pity to misuse this area of statistical enquiry just when clinicians are beginning to grasp the nature of data variation, correlation, and the contrast between statistical and clinical significance.

Using computers interactively in medicine is