

EDITORIAL

INADVERTENT MISREPRESENTATION OF RESEARCH DATA

On 15th May 1889, Charles Edouard Brown Sequard, the highly respected 72 year old Professor of Medicine at the College de France, injected himself with an aqueous extract of guinea pig testicles. A month later, during a scientific meeting, he created a sensation by telling Societe de Biologie that animal testes contained an invigorating principle capable of rejuvenating elderly men (W. Sneader "Drug Discovery: The Evolution of Modern Medicines", John Wiley Sons, New York, 1989 p. 192). He was a living testimony to this new finding. Being in the twilight of his life and passed the biblical landmark of three scores and ten years, the professor was an ideal candidate for his experiment.

Today, we know that male hormones are insoluble in water. Indeed Ernest Laquer, the first scientist to isolate testosterone, required more than a ton of bull's testicles to isolate enough testosterone for a single course of injection. The invigoration experienced by Brown Sequard must have been due to his fertile imagination.

The history of scientific discoveries has many examples where researchers misinterpreted their findings but nevertheless set in motion a cascade of events which eventually yielded far-reaching results. In the case of Brown Sequard, his fertile imagination heralded the dawn of organotherapy and eventually lead to discovery of insulin, oxytocin, thyroxine, cortisone, androgens and estrogens.

One more example of self-serving quasi-scientific findings can be cited. On 16th July 1980, "The Peking Daily" carried an article on "Tea treasure", also known as "Black tea fungus" and "mai bao" in Chinese. The article was by comrades Feniso Yong and Wong Nsiou, both respected research scientists. "mai bao" originated in Caucasus region of the Soviet Union, where it was claimed many inhabitants lived for more than 100 years and had minimal health problems. One legend has it that a 130 year old man married an 88 year old woman and 2 years later the woman gave birth to a healthy baby boy. Among the claims regarding "mai bao" is that it removes skin blemishes, freckles and loosens wrinkles. It prevents and controls cancer, promotes healthy menopause, improves eye sight and limbs of the elderly; prolongs the period of male virility and female fertility; cures insomnia; anorexia, asthma, bronchitis, diabetes, hypertension, renal problems etc. Mai bao is currently doing rounds in many parts of the world. In Kenya, the craze for mai bao reached its crescendo around 1997 and then faded. According to one microbiologist who examined it, mai bao is a matrix composed of yeast, lactic mycolium and another acid mycolium all growing together.

A survey of scientific journals reveal many examples of self-serving publications even though this may not be as obvious as the case of "mai bao" cited above. It is however important to differentiate between inadvertent misrepresentation of scientific data and deliberate falsification of the data. The former reflects badly on the competence of the scientist while the latter is outright criminal. This point was brought home during a World Health Organization (WHO) consultative meeting on Good Laboratory Practice (GLP) held in Geneva on 25th November 1999 which I attended.

It is well known that such variables as temperature, noise, lighting, aggregation and type of bedding in the cage, often affect the outcome of experiments with small laboratory animals. Furthermore, such phrases as "New Zealand white albino rabbits" and "Winstar rats" are cited without specifying the actual laboratory where the animals were bred. Often, the documentation of research method and results is such that it is impossible to comprehend and counter-check what was actually done. Many research journals are very restrictive with respect to length of articles, making it difficult to include minute details.

The aim of the WHO consultative meeting referred to above was to set standard which could lead to reciprocal acceptance of non-clinical laboratory test data from different laboratories. Already such an arrangement exist among Organization for Economic Cooperation and Development (OECD) countries. If this is to become a reality, the standard of many laboratories in the developing countries will need upgrading. The financial implication for this is enormous because of the competing basic needs of the population. In countries where a significant percentage of the population live below poverty line, it is difficult to prioritise scientific research. This is where the input from WHO is needed. For a start, this may mean setting up regional centers of excellence. It is to the credit of many African scientists that despite heavy odds, they are still able to publish their work in competitive international journals

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