Socially oriented medicine: teaching costs and outcomes

In a highly inflationary economic scenario, the mindset changes from the middle class to the rich. Investment becomes a major preoccupation, as it was in Brazil with inflation gone as high as several hundred per cent in the past. The middle class really works hard, saves money, builds a home and tries to live on its savings, which disappear at a rather alarming rate. Putting money to work is not the forte of the middle class. The middle class with a fixed mindset was the major casualty in the inflationary scenario. At the end of the Weimar Republic, a freshly retired German professor could barely buy a dinner for his family at a restaurant with his entire life's savings. A recent book, *Rich Dad and Poor Dad*, tells many tales of this kind to illustrate the point. Basically we are not taught about money, which occupies a central position in our lives in many ways. Health is one commodity that is expensive. Is health a liability or an asset?

The present times represent many changes in the health sector: (1) The WTO regime has brought forth raging controversies whether the cost of medicines would go up. (2) There is great lack of quality control in health practices, drugs in terms of manufacture, expiry, presence of spurious drugs, etc. (3) Multiple systems of medicine brought forth due to various platforms have mostly degenerated into blatant practice of allopathic medicine without relevant training. (4) Large hopes in drug design based on genomics have come to naught due to there simply not being enough surplus genes as expected. (5) Design and development of newer antibiotics has come nearly to a standstill, as the financial burden in the design of newer chemicals to the marketing stage has become prohibitive, even for the pharma with all its deep pockets. (6) Alternative uses for existing drugs is a search that has formally begun.

While all this turmoil is going on, teaching medicine has hardly changed. There is a blatant business side to medical practice, viewed largely as a downside. What it costs to the patient and for what outcomes, is largely not figured in the developing countries. The mindset for health is a middle-class affair. The general public (at least the urban) has insurance coverage, some system of a family doctor and some degree of opinion-seeking in the community. There is absolutely no information to the lay public on acts of omission and commission. Legalities only escalate the tension since the accountability is still shrouded in an 'information' vacuum. One reaction was in Astley Cooper's remark that the inside of bones is filled not with red marrow, but with black ingratitude.

How does teaching medicine itself fare? At best, it is about teaching techniques. The value system is largely determined by the ambience offered by the teaching college. Though most decisions by people about their health are based on social decisions, particularly at the limiting incomes, medicine itself is taught bereft of the social context. On the other hand, there is this question of every minute of life being life. This offers an extraordinary excuse for excesses in the name of medicine. The high costs, the side effects of the potent newer formulations, unnecessary investigations spurred by kickbacks from the clinical laboratories on one hand and legal scare for the doctors on the other... all add costs to medicine, which make it unaffordable to the majority. The student is totally shielded from all the major deciding factors and is taught clinical medicine with 'clinical' detachment!

A multitude of terms abound... just terms. Holistic medicine, integrated medicine... tell little about the hole the health expenditures make in the patient's pocket, which gets integrated into the lining of the pockets of the clinic or the pharma. Managed healthcare is coming in, which to some extent puts a lid on excessive expenditures. This in turn brings the fear psychosis of social control by MNCs!

I see a definitive need to find an intermediate solution to teaching general medicine (and all its branches) and social preventive medicine (which is often no more in scope than training someone to be a village doctor). There is a need to teach costing and outcomes, acceptable risks and unacceptable prices. This is best integrated into the preclinical curriculum that helps in some assessment of the sociology of medical practice. This is to have an edge in management and economics, so that all the subsequent training reflects on the essence of practice... effectiveness. Few models, though a lot of relevant topics are heavily discussed, exist in the international scene. Since limiting incomes largely shape the participation in health practices and prescriptions, it is an area in which we have to take the lead and not just follow the West.

There is a mind shift in this from science to sociology, which often has been in the province of non-allopathic practices. Perhaps their popularity stems from at last paying lip service to thoughts that remain alien to the allopathic practitioner. The influence of religion varies, from instilling the all-important hope, a prerequisite for seeking health, to rather undesirable practices. The rich man's view is that health is an investment and not a liability. Today's medicine is a liability. To change the mindset requires intensive compilation of case studies, costs and outcomes, options and lack of them into reports, monographs and books that form the basis of teaching a cost-effective patient-oriented health perception. Methods and theory, from econometrics to Bayesian inferences and belief networks, exist. The right place to start it is in the preclinical years of medical education, though far less quantitative and more management and sociology-related. It is at an impressionable state, where the social perceptions are not yet dominated by hard 'scientific' thinking and clinical 'imperatives' in the choices for treatment.

What are the expectations? Quality improvement in medical practice cannot come forth without a debate among the practitioners. Debate requires views and counterviews, which exist only when there is an attempt to understand that the ethos of science and society could be at conflict (and not the overstated conflict between science and religion), and these conflicts need to be studied with as much diligence as the science itself. That should form the basis of new 'social' medicine, which is conspicuous by its absence.

Much of this training can be study based. When I was a house surgeon long ago (most people rightly run away whenever any medical person begins an anecdote thus), we could see that medicines, besides the 'needed' ones, get prescribed in

the out-patient clinic as a necessity since the patient 'expects' some general health boosters. Even a routine supplement of vitamins and tonics in an average family of a husband and a wife, two old parents, an unmarried or widowed aunt, a younger brother and 2–3 children would take care of some 15–20% of the income of this municipal office clerk for a family of that size! Late Ramasastry of National Institute of Nutrition used to wryly remark that if everybody had their recommended dose of green leafy vegetables, Hyderabad would not be green for the next decade! Pursuit of health is to be made sustainable and that forms an important beginning in the exposure to medicine as a profession.

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Scope for formulating quality standards of food grade silver

In the Indian subcontinent, silver foil has been used for centuries to garnish and embellish several food items, especially various types of sweets, desserts, chewable betel leaf, mouth freshening herbs and spices such as cut, sliced and sweetened areca-nut and dried dates, aniseed, green cardamom, chewing tobacco, etc. Silver foil is also used in some of the special mughlai cuisines, which at times are literally covered in silver foil. Various feasts and traditional weddings also involve serving of dishes and desserts decorated with silver foil. The culinary use of silver foils in Indian food can be judged from an estimate that the country has been converting up to 275,000 kg of pure silver into edible silver foil each year.

The Prevention of Food Adulteration (PFA) Act of India, permits the use of food grade silver leaf and requires that this shall not contain less than 99.9% of silver. The European Council allows silver on *quantum satis* basis and has prescribed only a minimum silver assay of 99.5%. The purity required for silver in Indian legislation and EC may mean to leave a respective margin of 1000–5000 ppm for co-metals or contaminants. This margin can easily get reduced, if a higher purity of silver is to be provided. Silver of purity grade as high as 99.999% is commercially achievable. However, purifying silver beyond the present purity requirements may not be cost effective and even 99.5% serves the purpose. It could hence be advisable to allow addition of some silver alloyable safe filler metals such as iron, tin, zinc or even copper but at the same time strictly legislate limits for toxic metals such as arsenic, cadmium, lead, mercury and the total heavy metal content which are prescribed in case of all synthetic food grade colours world over and even for aluminium powder and sheets under EC.

In a recent study[1] on the quality of silver foils, appreciable residues of nickel, lead, chromium and cadmium were detected. Over half of the analysed silver foils had lower silver purity (82.5–99.8%) than the PFA of India stipulated requirement. The dimensions (length 6–11 cm, width 8–12 cm), thickness (0.21–0.46 μm) and weight (20–44 mg) also showed lot of variations. It is also desirable that only blank fresh paper sheets be used to hold foils instead of the prevalent practice of using old newspaper or printed waste papers through which there are chances of the ink ingredients getting onto the foil.

Looking at the continued use of silver foils, it appears reasonable that Food Policy/Regulatory agencies should take up the issue of silver and prepare or enlarge its quality specifications by prescribing the limits for filler and toxic metals. This step shall encourage the manufacturing units to use the desired purity raw materials so as to save unwarranted exposure of consumers to bio-cumulative toxic metals such as lead and cadmium and ensure the availability of safe and uniform quality of this food additive.

1. Das, M., Dixit, S. and Khanna, S. K., *Food Additiv. Contam.*, 2005 (in press).

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Life sciences research in India

Nature[1] carried a supplement entitled 'Nature outlook India: Reaching for the top'. It is an unequivocal recognition of coming of age of India's life sciences research. The editorial highlights the phenomenal growth of India's economy, success of biotechnology companies and the growth of basic research institutes. India is truly at a critical juncture to build a scientific and technological future, it avers.

Inder Verma applauds India's biotech and pharmaceutical companies for having undertaken novel challenges. He observes that, in the past, life sciences research in India had been constrained by funds and equipment, but not anymore. He is particularly impressed by a spate of excellent papers appearing in top-tier journals by scientists in India. He is also appreciative of the role of DBT and government's support for science. He however laments