

## Research in India

A.C. ANAND

'Somewhere, something incredible is waiting to be known.'

—CARL SAGAN

Every time I go to Hyderabad for a conference, I learn something new. This time it was the IBD Summit 2016—a comprehensive continuing medical education programme focused on inflammatory bowel disease (IBD). Meeting old friends was a bonus.

We all went for breakfast early, so as not to miss the first talk. I picked up my breakfast and went to sit on a table where AS was sitting. AS and I were friends for the past 30-odd years and I admired him for his several qualities. He was an exceptionally intelligent, hardworking, talented gastroenterologist and had made a niche for himself in national medical academia while working at a government medical college in a tier-2 city. He was known for his razor sharp wit and contagious sense of humour. There he was discussing something animatedly.

The topic of discussion was a *Times of India* report<sup>1</sup> on the poor state of medical research in India. It somehow touched a raw nerve in AS and he appeared quite agitated.

The report was based on a paper published elsewhere by a retired professor.<sup>2</sup> Professor SN was another enigmatic academician, who had left a premier tertiary care hospital to practise in a private hospital. He was a proverbial tall, dark and handsome man who was suave and eloquent. He always called a spade a spade and had raised the bar for medical research in India. In this paper, he said that '*only 25 (4.3%) of the (medical) institutions produced more than 100 papers a year but their contribution was 40.3% of the country's total research output. 332 (57.3%) of the medical colleges did not have a single publication during this period.*'

'I respect Professor SN, but does he know about the situation in state medical colleges? He has only seen one college in India and that is AIIMS. He feels every college is like AIIMS,' AS was saying when I reached the table.

'And what is the difference?' I asked.

'Sir, you have also not worked in a state medical college. Just yesterday, in my college, I realized there was no fan working in our ward when the outside temperature was 48 °C. Patients would have died of heat rather than cholangitis for which they came. I gave money from my own pocket to get one fan repaired.' AS was still angry.

'Why not ask hospital authorities? Isn't it their job?' I asked.

'No one listens there. They all have more important things to do, like cozying up to the powers that be. No one is concerned how we are working!' AS appeared dejected. 'There have been no grants to our department for decades even for treatment and they expect us to perform all kinds of procedures and even earn money for the government. Most teachers have no publications but are promoted and even become dean and principal. How can they inculcate a desire to work and perform research in the faculty? Everyone is busy in private practice and making money.'

'SN has said something similar. But what stops people from

doing medical research?' I tried to bring the discussion back to research.

'Hah,' AS laughed. 'Research? If they don't have ₹500 to spend on repairing a fan, do you think they can fund your research? For all the thesis work of my students, I have been spending money from my salary! I challenge SN to compare the research grants given to AIIMS and my college and then compare the research output.'

I was aware of the impressive publications AS had had and they appeared still more so when I considered how he might have made it possible. I definitely did not want to bring up what SN had written about lack of research output, '*The reasons for this state of affairs are alleged to be the overwhelming clinical burden in most medical colleges leaving little time to devote to academic activities; but we believe it is more due to the lack of guidance and absence of role models among seniors, who themselves have published little.*'<sup>2</sup>

AS would have exploded had I read it out then. His work was better than that of many in some premier institutes. To be fair to SN, he had mentioned lack of funding, absence of infrastructure and time-bound promotions for faculty as other causes of poor output.

At that moment, BM, another colleague of ours, walked in with her breakfast to the table and joined the discussion. BM, also a professor of gastroenterology, had spent her lifetime in a government medical college. She said, 'There is gross shortage of faculty in medical colleges. Over 30 seats were not filled in my college. Just before inspections, the state medical education authority would order emergency transfers to medical colleges from peripheral hospitals to fill in the numbers! Earlier we used to criticize private medical colleges for having ghost faculty, and now state governments are doing the same thing. Similar is the case with essential medical equipment. Medical equipment is taken on loan from suppliers before inspection by the Medical Council of India (MCI), while all non-functional equipment is hidden somewhere.'

SB, a young, smart and erudite gastroenterologist with a goatee beard and photochromatic spectacles, was also sitting on the table. He was silently listening to this conversation. He spoke for the first time, 'I suggest you should outsource research to private professionals! I have been doing it for years.'

'What do you mean private professionals?' I enquired.

'Actually my father taught me this. And very early too. Always get the best professional help available,' SB seemed to be enjoying our attention.

All three of us were now staring at him. 'Your father taught you? What does he do?'

SB's manner was self-assured: 'He is a simple businessman!'

We kept staring at him as if asking him to explain. He added: 'In class IX, I was given a project to find out how boys and girls of our school spent their pocket money. My father asked one of his employees to prepare the project for me. I don't know how that man did it, but my project was declared the best in the school.'

'But that was just a school project!' BM said.

SB continued, 'In intermediate college while doing class XII, we were asked to prepare a science project for which there were

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marks for “internal assessment”. This time it was my own research that got me 20 out of 20 marks!’

‘What research?’ I asked.

SB smiled, ‘I found out that our class teacher’s husband sold readymade science projects. He was actually one of many people who did this work. But if you bought the project from our class teacher’s husband, you got 20 out of 20, otherwise you got 18 out of 20. I told this to my father and got 20 marks!’

‘Where have you done your medicine from?’ I asked. He proudly mentioned the name of his medical college. It was a private medical college in a city I had never heard of. So I asked, ‘How did you write your MD and DM theses?’

‘I told you it was a professional job!’ was his answer.

‘And who are these professionals?’ I asked.

SB flicked his wrist and started clicking on his smartphone. In a few seconds, he pushed a list before my eyes. It seemed to be a list of professional companies writing medical papers as well as MD/PhD theses.<sup>3-7</sup>

AS looked at the list and said, ‘But these sites may just be offering help in learning how to write a thesis! How do we know they are doing what you say.’

‘The legality of such a business may be questionable. Therefore, they advertise in a legally acceptable manner. I can introduce you to the real professional people I used. They used to do a full dissertation in just three sittings.’

‘Three sittings?’ all three of us said in a chorus.

‘Yes,’ he said in a matter of fact tone, ‘In the first sitting you explain to them what you want. The second sitting is to approve or change what they have written. And the third sitting is to negotiate the journal in which you want to get it published!’

‘They get it published too?’ BM asked.

‘Yes, in world-class, high-impact journals! These days, it is preferable to publish in open source publications to get higher citations. Both my theses were accepted for publication during my postgraduate course.’

‘But you said they used to—are they not doing it anymore?’ I asked.

He said, ‘I am sure they are still doing it and may be better than before. But I have not needed them after my thesis work. Now I use a different source.’

‘What source?’ BM asked.

‘During the past 9 years, I have published 27 papers in indexed journals. I am already a professor in the medical college I am attached to. Now I use pharmaceutical firms and device manufacturers for the real work. They have their own competent departments to do such jobs’, he replied.

‘You’re a revelation. I’m finding it difficult to accept all this as real. I wouldn’t even dream of such a thing,’ BM commented.

SB’s respectful reply was: ‘Madam, I have learnt it from the Chinese. A few years back I had gone to attend a conference in China. There, a friend told me about it. The Chinese are ahead of us because in their country, promotions and financial bonuses are linked to the number of publications by an individual. Big companies there provide this service, and almost everyone is using it. The easiest thing is to publish a meta-analysis or a systematic review. It is almost free if you don’t interfere with the slant they want to give in the conclusions.’

BM enquired, ‘How do you select a research question?’

SB’s smile broadened, ‘Is there a dearth of research questions? Someone has defined a “drug” as a substance, which when injected into a rat, produces a research paper.’

‘I can understand that pharmaceutical companies would be

interested in drug trials. Tell me, how do pharmaceutical companies help you in writing a research paper?’ I asked. ‘Do they provide a research assistant? Do they collect all your patient data and analyse it for you?’

I was in for another shock. He answered, ‘No they bring the paper, and I submit it in my name. Research is done at their end. I do not know from where they collect the data. I am sure you know about ghost writing.’<sup>8</sup>

‘Aren’t you scared that you may be caught?’ AS was curious.

SB passed a muted smile, ‘Well, there have been instances of people being caught. One example in the literature is of a private practitioner from Moradabad who in 1992 published in the *BMJ* a randomized controlled trial on the effects of dietary intervention to prevent further heart attacks in susceptible patients.<sup>9</sup> One of its key findings was that a year of a low-fat, fibre-rich diet almost halved the risk of death from all causes. This study later became a citation classic (cited more than 225 times). Then, I guess, he became more confident and went on to publish many more and also submitted such articles again to the *BMJ*. Later, one of the reviewers suspected fabrication of data and asked the editors to investigate not only the script submitted for the publication but also the one published earlier. This man failed to produce the original patient records because “termites had eaten them”. Then followed a concerted, but informal, international investigation into suspicions of scientific misconduct and data fabrication.’<sup>10,11</sup>

‘Aren’t you afraid, it might happen to you?’ BM asked.

‘It can!’ He shrugged his shoulders. ‘But I don’t write earth-shaking research papers in A-list journals. Mine are mostly “me too” papers written for journals which are eager to accept papers. And there is an epidemic of such journals now. It is also safer.’

‘But why have you told us all this?’ I asked. ‘Aren’t you afraid that we might blow the whistle on you?’

‘No sir, I know you won’t. You need evidence for it. Everyone of my generation knows it. I told you, because I respect all three of you and I didn’t want you to fret about a mundane thing such as medical research.’ SB was still respectful.

‘You have given us a jolt. If this is reality, we should not base our medical practice on this kind of research. I for one, will lose all faith in research coming out of tier-2 cities!’ BM lamented.

SB added, ‘Madam, do you think research coming out of big Indian institutes is real, honest and reliable? It will be a rare professor in these institutes who will himself supervise data collection. Residents collect all data, and the main aim of residents is to pass the DM/DNB examination. They have to work in the wards and outpatients 18 hours a day; how honest can you expect them to be in data collection? Have you thought about it?’

AS nodded vigorously, ‘It’s a fact. Unless we computerize everything, data verification will not be possible. Here again everything boils down to infrastructure and funding.’

‘So we are back to relying on western research?’ I said.

SB laughed, ‘Sir, I know you are not so naïve! You have already written about how pharmaceutical companies in the West decide—*what research is done, what results will be shown and what will be published. They also decide what guidelines will say!*<sup>12</sup> More than half of what is published in peer-reviewed journals is biased. Everything or at least most of what you read has already been doctored, especially the clinical practice guidelines by various societies.’<sup>13</sup>

Yes, I have been aware of this malady. We have often discussed this influence of the pharmaceutical industry on medical research. But SB had more to tell us. He added, ‘And Sir, regarding your comment about relying on the West, let me say that your faith is

misplaced. There are numerous instances where falsification of research data or results has been done in the developed world. The list is endless but I can enumerate a few for you:

1. 'In 1866, Gregor Mendel published a seminal paper containing the foundations of modern genetics. In 1936, Ronald Fisher published a statistical analysis of Mendel's data and concluded that "the data of most, if not all, of the experiments have been falsified so as to agree closely with Mendel's expectations."<sup>14</sup> It has been described with interesting titles such as "Too many small  $\chi^2$ 's or hanky-panky at the monastery? (1968)", "Great Fakes of Science (1977)" and "Betrayers of the Truth (1983)".<sup>15</sup>
2. 'Sir Cyril Burt, one of the most important psychologists in England, who was awarded the Thorndike Prize by the American Psychological Society, is best known for his study of intelligence with twins separated at birth. He argued that intelligence was highly heritable. In 1972, Burt's papers came to the attention of Leon Kamin, a Princeton University psychologist, who noticed a number of irregularities in Burt's published papers and concluded that Burt had "cooked" his data in order to arrive at the conclusion he wanted. "A liar and a fraud," was Kamin's verdict.<sup>16-18</sup>
3. 'Dr John Ronald Darsee, a physician, was a shining star researcher of Harvard University, and had published over 100 papers. He was later found (and admitted) to have fabricated data and was suspended from Harvard.<sup>19</sup>
4. 'Dr Stephen E. Breuning from Pittsburgh is another case where the researcher was indicted for fraud in medical research. A 3-year probe, by the institute's review panel, concluded that Breuning actually had carried out very little of the work he described. And the impact of his research is still a matter of concern.<sup>20</sup>
5. 'Dr Marc J. Strauss of Boston University Medical Center was found to have falsified data in the use of a cancer drug and was debarred from federal funding.<sup>21</sup>
6. 'Dr Roger Poisson (1994) working on a multicentre clinical trial of lumpectomy versus radical mastectomy in treatment of breast cancer at St Luc's Hospital, Montreal had enrolled patients who were not eligible for trials and then falsified or fabricated their medical records to cover up their ineligibility.<sup>22</sup>
7. 'Dr Paul H. Kornak was an anaesthetist at Stratton V.A. Medical Center, Albany, New York and was sentenced to almost 6 years in jail after he admitted to doctoring patient test results in his work on "The Iron (Fe) and Atherosclerosis Study (FeAST), VA Cooperative Studies Program".<sup>23</sup>

SB ended his monologue by adding, 'Then there is another familiar name—Anjan Kumar Banerjee from King's College Hospital.<sup>24</sup> And there are numerous others. Several books have been written on this subject.'<sup>25</sup>

Some time back I had read a paper in the *BMJ* about corruption in Indian medicine.<sup>26</sup> SB had a clear answer to those who felt that corruption was mainly an Indian phenomenon. In a poor country such as India, money could be a motivator to indulge in such fraud and deceit in medical research, but what motivates people in the developed world?<sup>27,28</sup> The human mind is complex and always weighs advantages to self before thinking of others. *Even if I have everything, I would like to tell everyone that in a world of worms, I am a glow-worm.* Creating incentives for research to increase research volumes will always run the risk of being counter-productive in a situation like ours.

BM declared, 'Increase in research funding together with

closer supervision may be the only answer. But one can only dream about it.'

Ways to prevent such misconduct have been often discussed,<sup>29</sup> but nothing concrete has been done. The Government of India has been promoting Ayush, and is looking to cut down funding for scientific research. Lack of funding does drive prospective researchers to approach pharmaceutical companies. Easing availability of research grants can be one way to wean researchers away from such influence. And supervision is essential. Since the majority of work comes from medical colleges, institutional research committees can be tasked with the additional responsibility of supervising research work being done. A special body constituted by the MCI or its state counterparts can check the private players. These thoughts must have crossed his mind, as they did mine, when AS said, 'But in a country, where traffic laws cannot be enforced, is there a guarantee that research can be supervised?'

As SB finished his coffee, the smile was back on his face. He winked as he started walking towards the conference hall, and said, 'Fact remains, despite all this confusion, medical progress is being made. The situation is not very different in our country. Despite the chaos we see every day around us, everyone I know has noted a perceptible improvement in their quality of life.'

(Note: The names and places are fictitious, but the issues are real. Any resemblance to a person living or dead is purely coincidental.)

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I, Dr PEUSH SAHNI, hereby declare that the particulars given above are true to the best of my knowledge and belief

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