

9. Rao N. A national health commission would serve India better than a medical commission. *The Wire* [Internet]. 2017[cited 2017 Mar 11]. Available from: <https://thewire.in/99213/health-commission-bill/>
10. Australian College of Nurse Practitioners (ACNP). Australian College of Nurse Practitioner history. Nurse Practitioner Movement in Australia [Internet] [cited 2017 Mar 11]. Available from: <https://acnp.org.au/history>
11. Organization for Economic Cooperation and Development. Government capacity to assure high-quality regulation in Australia. OECD Reviews of Regulatory Reform; 2010 [online] [cited 2017 Mar 11]. Available from: <https://www.oecd.org/australia/44529857.pdf>
12. Roy S. Where have all nurses gone. *Business Standard*. 2015[Internet] [cited 2017 Mar 11]. Available from: http://www.business-standard.com/article/opinion/subir-roy-where-have-all-the-nurses-gone-115110301549_1.htm
13. Anand S, Fan V. The health workforce in India. World Health Organisation [Internet]; 2016[cited 2017 Mar 11]. Available from: http://www.who.int/hrh/resources/16058health_workforce_India.pdf
14. Bhaumik S. Can India end corruption in nurses' training? *BMJ*. [Internet] 2013 Nov 18[cited 2017 Mar 11];347:f6881. doi: 10.1136/bmj.f6881. Available from: <http://www.bmj.com/content/347/bmj.f6881>
15. Li H, Li J, Nie W. The benefits and caveats of international nurse migration. *International Journal of Nursing Sciences*. 2014[cited 2017 Mar 11];1(3):314–17. Available from: <http://dx.doi.org/10.1016/j.ijnss.2014.07.006>
16. Sharma RK. IMA opposes government's proposed amendments to the MTP Act. *The Economic Times* [Internet] [cited 2017 Mar 11]; 2014. Available from: http://articles.economictimes.indiatimes.com/2014-11-06/news/55835712_1_indian-medical-association-ima-members-20-weeks
17. Ipas. Expanding the role of providers in safe abortion care: a programmatic approach to meet the women's needs. *Ipas* [Internet] [cited 2017 Mar 11];2016. Available from: <http://www.ipas.org/en/Resources/Ipas%20Publications/Expanding-roles-of-providers-in-safe-abortion-care-A-programmatic-approach-to-meeting-womens-needs.aspx>
18. Rao M, Rao KD, Kumar AK, Chatterjee M, Sundararaman T. Human resources for health in India. *Lancet* [Internet]. 2011 Feb 12[cited 2017 Mar 11];377(9765):587–98. doi: 10.1016/S0140-6736(10)61888-0. Epub 2011 Jan 10. Available from: [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(10\)61888-0/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)61888-0/abstract)
19. Arora R, Nakazi E, Morgan R. Gender and health systems leadership: increasing women's representation at the top. *IHP* [Internet] [cited 2017 Mar 11]; 2016. Available from: <http://www.internationalhealthpolicies.org/gender-health-system-leadership-increasing-womens-representation-at-the-top/>
20. Jhpiego. Towards a strengthened nursing cadre in India. Inspiring stories of success. Jhpiego (an affiliate of Johns Hopkins University) [Internet]; [cited 2017 Mar 11] 2016. Available from: <https://www.jhpiego.org/wp-content/uploads/2016/10/Addressing-Jhpiego-India-Human-Resources-2016.pdf?x96543>
21. Nandan D, Mavalankar D, Bagga R, Sharma B, Sharawat R. Assessment of nursing management capacity in West Bengal. National Institute of Health and Family Welfare [Internet] [cited 2017 Mar 11]. Available from: <http://nihfw.org/pdf/Nsg%20Study-Web/West%20Bengal%20Report.pdf>
22. Sharma B, Mavalankar D. Health policy processes in Gujarat: a case study of the policy for independent nurse practitioners in midwifery. Indian Institute of Management, Ahmedabad [Internet] [cited 2017 Mar 11]; August 2012. Available from: <http://vsliir.iima.ac.in:8080/xmlui/bitstream/handle/11718/11385/2012-08-01.pdf?sequence=1&isAllowed=y>
23. Masso M, Thompson C. Nurse practitioners in NSW 'gaining momentum': rapid review of the nurse practitioner literature. Centre for Health Service Development, University of Wollongong [Internet] [cited 2017 Mar 11]; 2014. Available from: <http://www.health.nsw.gov.au/nursing/practice/Publications/nurse-practitioner-review.pdf>
24. Mahindrakar S. Why nurses go unheard in India– even when they strike. *Scroll.in* [Internet] [cited 2017 Mar 11]; 2016. Available from: <https://scroll.in/pulse/815812/why-nurses-go-unheard-in-india-even-when-they-strike>
25. Trained Nurses Association of India. Policy statement –strikes. TNAI [Internet] [cited 2017 Mar 11]. Available from: <http://www.tnaionline.org/news/Policy/37.html>

Social responsibilities of a physician: reflections of Major General S L Bhatia (1891–1981)

RADHIKA HEGDE, MARIO VAZ

Abstract

This paper examines various documents written by Major General SL Bhatia CIE, MC, IMS from the 1920s to the 1960s on the "Social Responsibilities of a Physician". His reflections are of historical significance, since they provide us with an insight into the challenges confronting the people who attempted to rebuild

a nation plagued by poverty resulting from fractured agricultural growth, a feudalistic social structure and the regional inequalities that accompany it, and prolonged imperial rule, among other things. Bhatia's thoughts, especially on medical education and the condition of rural health and sanitation, enable us to understand India's present health concerns through the prism of the past. The writings of Bhatia, who lived during a period of transition in India, reflect an understanding of health issues from the perspectives both of an administrator and a physician struggling to meet the challenges of a nascent nation. He insisted on rooting his medical teachings in the principles of the humanities and ethics.

Authors: **Radhika Hegde** (corresponding author - radhika.h@sjri.res.in), Department of History of Medicine, St John's Medical College, Bengaluru, Karnataka 560 034, INDIA; **Mario Vaz** (mariovaz@sjri.res.in), Head, Health and Humanities, St John's Research Institute, Bengaluru, Karnataka, 560 034 INDIA.

To cite: Hedge R, Vaz M. Social responsibilities of a physician: reflections of Major General S L Bhatia (1891–1981). *Indian J Med Ethics*. 2017 Oct-Dec;2(4) NS:281-6. DOI: 10.20529/IJME.2017.070

Published online on July 25, 2017.

Manuscript Editor: Sunita VS Bandewar

©Indian Journal of Medical Ethics 2017

Introduction

"We must consider a patient not merely as a disease, but as a human being. This implies that the physician should appreciate and face the realities of the social and environmental factors in relation to his patient (1)."

Dr Sohan Lal Bhatia (1891–1981) was born in an affluent family in Punjab. After finishing his matriculation in Lahore, he left for England to pursue his medical education at Cambridge University, where he boarded at Peterhouse. When World War I broke out, he volunteered as a surgical dresser on board the hospital ship, *Guilford Castle*. Bhatia went on to become a Regimental Medical Officer in the Mesopotamia /Palestine campaign during the conflict. Perhaps, prescient of his future role as the Director-General of Medical Services, Bhatia wrote that a physician “attempts to devise means to prevent human suffering as well as cure it” (2). Bhatia returned to India in 1917 and joined the Indian Medical Service (IMS). In 1920, he was appointed Professor of Physiology and Hygiene at Grant Medical College in Bombay. In 1925, he became the first Indian dean of the college.

Although Bhatia’s primary recruitment was as a physician in the military wing of the IMS, he never ardently supported war. As he wrote: “[a]fter having been through two world wars, it is my firm belief that another world war would mean the entire collapse of human civilisation” (3). Rather, as a physician, he dedicated his service to the suffering soldiers in World War I and was recognised for his courage and commitment with the Military Cross in 1918—the only medical doctor to be conferred this award that year. In 1945, he was appointed the Inspector-General of the Health Services and Prisons of Assam, where he helped rebuild medical education and hospital facilities. This position also enabled him to witness the changes in healthcare that had been brought about by wars in different countries. At the time, the government’s participation in India’s healthcare was growing, especially in the strengthening of social and preventive medicine. Bhatia understood that proactive healthcare could benefit the nation greatly and, therefore, encouraged the increase in auxiliary forces in healthcare and advocated for education in social medicine and research. Later, when he was the chairman of the landmark Pharmaceutical Enquiry Committee, the recommendations made by his team in 1954 for encouraging both the public and private sectors to produce vaccines, antibiotics and other medications were accepted by the government. As a result, India became largely self-sufficient in this area.

Bhatia adhered to the ideas of universalism, according to which the ethos of scientific knowledge extended beyond national borders and science was truly international. He strongly advocated the accessibility of healthcare to all, irrespective of economic and social status. In his article “Nation’s Health”, published in the *Deccan Herald* in 1960, Bhatia assessed India’s health status since Independence and concluded that the recommendations of the Bore Committee of 1945 had not been followed, as health facilities in India had not expanded adequately either in the rural or urban areas. In addition, not much attention had been paid to the Committee’s proposal on “the availability of health protection to all the members of the community, irrespective of their ability to pay for it”. Bhatia drew an analogy to the National Health Service (NHS) in England, which aimed to provide medical relief to all people regardless of their

economic class: “I devoutly wish that we should also adopt a similar National Health Service in India, a service which would be specially adapted to our conditions here” (4).

Dr Bhatia was a perceptive writer, and his works reflect a keen intellect with a multi-layered, multidisciplinary understanding of health issues in India. His first appointment at the Grant Medical College required him to combine basic laboratory work as a physiologist with his work, as Professor of Hygiene, on wider social issues that impacted human health and well-being. Dr Bhatia lived during a period when India was in transition, emerging from colonial rule to assert her independence. As he would note after Pandit Jawaharlal Nehru’s famous “at the stroke of the midnight hour” address “there was a need for greatness, great resolutions and great ideals. In our onward march, there is need to recall the fundamental principles of human life and conduct, and to seek inspiration in our past culture and traditions. The conquest of disease is but a part of the conquest which we must seek in other spheres of human existence. A coordinated effort is, therefore, necessary” (5).

Bhatia became a part of this “coordinated effort” to change public health on the national front. He made many observations on the healthcare facilities in India, initially under the colonial government and later, as Director-General of Health and Medical Services. This paper takes a look at the various documents written by Bhatia from the 1920s to the 1960s on the “Social Responsibilities of the Physician” towards his community and the people at large. Bhatia spoke strongly against the practice of medicine as a series of diagnostic tests and the prescription of pills. Although he considered research an integral part of the growth of medical knowledge, he was against medicine becoming merely technocentric. Bhatia was of the view that evidence-based medicine should consider relevant human factors, such as the social and economic realities of patients, while examining medical illnesses. He was convinced that a physician had to be an expert, skilled in the science of medicine, and must have an empathetic disposition towards those who are suffering. In evaluating Bhatia’s thoughts on the social role of the physician, this paper focuses on three broad themes: medical education, rural health, and public health and sanitation.

Medical education

Historically, the long-standing debate on the elements of what constituted good education had alternated between philosophical speculations to heated political arguments. There was a sense that medical education should go all out to embrace laboratory techniques based on the emerging scientific knowledge. The Flexner Report, published in 1910 by Abraham Flexner, revolutionised American medical education. According to Flexner, “[w]hether we know or do not know enough to proceed scientifically, medicine can at least be taught, practiced, and extended in the cautious and inquiring spirit characteristic of scientific inquiry” (6). The pressing health needs and inequalities in India, however, suggested a need

for a pedagogy that encompassed not just the techniques of science, but also introspection on the political, social and economic aspects of India as a nation. As a founding member of the Medical Council of India (MCI), which was established in 1933, Bhatia stoutly propagated the need both for a good curriculum rooted in research and for young doctors to be socially responsible and politically active in the development of the nation.

Bhatia travelled abroad frequently and was well informed on the various debates in medical education. As a member of numerous educational committees in India, he translated the insights gained from his experiences abroad into actionable processes that helped the growth of Indian medical education. He was of the opinion that the quality of healthcare offered to the people is in direct proportion to the standard of medical education. As Dean of Grant Medical College, Bhatia closely followed the Osler–Flexner debate, which touched upon the notion of what constitutes an “ideal” physician. Bhatia approached this subject with the thoughtfulness of an administrator, as well as a physician who realised that a patient was a part of a larger social environment. In his papers, he often emphasised the “social force of medicine” and the physician’s responsibility to discharge his social duties. Bhatia stressed the need for training doctors on the broadest lines possible so that:

...the product of our medical colleges is a man with the cheerful, sympathetic and optimistic outlook on life who possesses the freshness and vigour of youth, an intellect which is ever so keen to learn, is receptive, adaptable, critical with due sense of proportion, and not crushed by a lengthy, rigid and unwieldy curriculum, and long series of examinations (7).

It is here that the plurality of Bhatia emerges. On the one hand, he is an individual deeply embedded in the philosophy of the social physician while, on the other, he stresses the need for research to meet the growing nation’s increasing healthcare challenges. He writes:

The medical student should possess a scientific foundation for his professional work [...] [and] be able to observe accurately, reason logically and assess the claims of new knowledge, [...] he should also possess a sympathetic understanding of the people and their environment [...] undergraduate medical training must be organised and conducted so as to constitute a real discipline which will mould and develop the student’s personality and character, reinforce his natural ability, stimulate to the highest degree his interest in his future professional work and inculcate sound judgment and habits of industry, observation and application (8).

Here, Bhatia expressly states that it is educators from whom students learn the art of medicine. The ethical values of sympathy, kindness and good conscience should be reinforced by the educators because it is important not to see patients as diseased organs, but as members of society who are strongly influenced by their families and communities (9). Bhatia suggested that ethical principles are learnt from observations and not textbooks:

There are certain things like quickness of perception, rapid collection and sorting out of a series of impressions, the exercise of intuition and tact, the skill of obtaining history, making diagnosis and prescribing treatment, a sympathetic approach to the patient, correct professional conduct and so on, which can best be learnt when a student closely watches his teacher at the bedside of the patient. Such things cannot be learnt from a textbook (10).

Thus, education and the curriculum had to be designed in a manner that shaped students into proactive members of society, working towards building a healthy nation.

Although not a member of the main Bhore Committee, Bhatia submitted a memorandum titled *The Position of Physiology in the Basic Medical Curriculum* to the Professional Education Committee (11). He was clearly more than aware of the details of the Bhore Committee report, which had proposed major changes in medical education and recommended three months’ training in preventive and social medicine to prepare doctors as “social physicians”. As the Surgeon-General of the government of Madras (1947–49), Bhatia oversaw the review and implementation of the Bhore Committee report.

Few would argue that a biomedical approach to teaching medicine would improve a graduating doctor’s skills and expertise. However, this knowledge would be extremely restricted without an understanding of the social determinants of health: “Possibly, a physician who takes the time to look and even see beyond his stethoscope might discover basic maladies affecting his patient’s world, also in need of attention” (12). The accelerated growth of modern medicine led to the questioning of some of the core beliefs of medical practice. A historical reflection of the past prompted many scholars of the history of medicine to doubt some of the hegemonic medical practices of the European model. There was a move towards making medicine more humane and accessible to all. Bhatia, although trained in England, took immense pride in India’s traditional medical systems and believed that the study of the history of Indian medicine would provide a perspective on developments that had taken place in the past and “indicate[d] the lines on which future progress [wa]s to be made” (13). Henry E Sigerist, a medical historian and an adviser to the Bhore Committee, wrote a very stimulating piece on the need for an Institute of History of Medicine in India. Bhatia was also a contributor to the Bhore Committee report and was aware of Sigerist’s work. He had several of Sigerist’s books in his library. Interestingly, it was Bhatia who started the first department of the History of Medicine in 1956 at Andhra Medical College, while he was the Surgeon General of the Composite Madras State (14). Such a department, according to Bhatia, would help to diversify the students’ thoughts and ideas. After a failed attempt to set up an Institute of the History of Medicine in Bangalore, he went on to develop a similar department and an accompanying museum at St John’s Medical College in Bangalore (15). By familiarising students with the greatness of India’s medical past, he believed he could inspire them with

the spirit of compassion and service. He also believed that medical education should be based on principles contrary to the belief that “we consider examinations as if they were the be-all and end-all of all education, and although we consider that this is not the right attitude, we have not yet found a suitable solution of the problem” (15). Bhatia was clear that medical teaching had to be firmly rooted in the principles of humanities and ethics.

Rural health

“A war on disease and ill health is, therefore, essentially a war on poverty and all its evil brood [...] Public health must, therefore, go to the village, and the village should not be compelled to come to the town in search of it” (16).

Bhatia specifically encouraged young doctors to work in remote villages and district towns, since the health of the rural population was being completely ignored at the time. India’s colonial rulers gave these people only the “crumbs, which remained at the bottom of the public pocket” (17). Under British rule, India witnessed almost 31 severe famines and large outbreaks of diseases, such as cholera, which led to widespread suffering and death. Bhatia’s close knowledge of destitution and ill health in the aftermath of the Bombay Plague of the 1900s, and later as the Inspector-General of Civil Hospitals and Prisons in Assam from 1945–47, strengthened his conviction to establish good primary health facilities for the disadvantaged. As a contributor to the Bhole Committee report and Surgeon-General (1947–50) of the Madras presidency, Bhatia initiated various reforms, such as the construction of the New Government Hospital at Calicut (18). He also played a central role in the establishment of an industrial colony, later named Amritnagar, for ex-tuberculosis patients (19). With the accession of Hyderabad to the union of India in 1950, the Indian government asked Bhatia to reorganise its health and medical services, which lacked adequate medical facilities, “particularly to the rural areas where the medical relief to the public is either absent or is of a very rudimentary nature” (20). Bhatia strongly believed that caregivers should observe no boundaries and that it was important to be unprejudiced and open-minded. As he wrote, “[m]edicine is cosmopolitan and knows no boundaries of caste, creed or colour. It is universal in its mission to alleviate human suffering” (5).

With the life expectancy of Indians as low as 32 years in 1947, there was a desperate need for healthcare professionals who could provide medical relief and be socially receptive to the environment while dealing with the sick and suffering (21). As Bhatia noted:

Owing to shortage of water and failure of monsoons, there was a necessity of healthcare professionals who can provide medical relief and be socially receptive to the environment while dealing with the sick and suffering - “[...] owing to shortage of water and failure of monsoons, there is famine. So the people are very much handicapped and distressed [...] Doctors working in such areas are doing very noble work for the improvement of national health [...] You are entrusted

with double duties of not only providing medical relief but also preventing disease. Your efforts should be directed also towards the improvement of water supply and general sanitation, apart from preventing and combating outbreaks of epidemics (22).

Bhatia stressed the humane aspects of medical practice, considering that patients were both “biological and social beings” (23). He held that “[f]or a doctor not to show human kindness and sympathy to his patients is as much a crime against science as against humanity” (24).

Public health and sanitation

Then spread[,] distress around, plague first on Agra fell

The folk fled forth always (the gland disease had come)

The swellings rise, the stricken people helpless die.

First rats, and then doctors die; through fear the people fast (25).

After widespread opposition to the British anti-plague policies of the 19th century, changes were adopted in the ways of combating plague deaths in the 20th. The Bombay Sanitary Association was set up in late 1903 (26) to spread “awareness” of the disease amongst the natives, as “plague was attributed to filth, bad drainage in Indian quarters and poverty” (15). After being appointed Professor of Physiology and Hygiene at Grant Medical College in 1920, Bhatia ceaselessly campaigned, throughout his career, for maintaining a clean environment to combat common diseases in India. He repeatedly underlined the specific role of physicians as health educators for the people.

By the 1920s, Bombay had become a major port city in British India, and a large number of people were employed in the port and factories of the city. These workers were largely peasants who had relocated from the villages to the city in large numbers to escape the indebtedness and famines besetting the rural areas. Underfed and undernourished people were the first to die during an epidemic. Over 10 million people died of the plague and 15 million of cholera in India between 1892 and 1940 (27). Bhatia indicates that at this time, almost 76% of the people in Bombay were living below the poverty line, and were working as scavengers, dock labourers and coal fillers. They had huge families, which were crammed into unhygienic dwellings. These were places where diseases could spread fast, horizontally and vertically. These areas were also ideal for rats, which infested the port, and the Oriental rat flea, a parasite that was a vector for plague. Bhatia repeatedly appealed to the colonial government to address this issue, since the government’s indifferent attitude was resulting in a huge loss of life: “The conditions they live in are abominable, which needs to be looked into by the authorities, and (they ought to be) given proper living facilities (28). The germ theory of disease had replaced the theory of miasma by the early 20th century, and the authorities were aware of the fact that addressing overcrowding and maintaining basic hygiene could avert the spread of epidemics. However, it is relevant to note here that

the British government was not very persistent with its sanitary policies for the native population and had a “distinctly colonial mode of healthcare”, characterised by residential segregation and neglect of the indigenous population” (29). This approach showed an obvious disregard for the common man’s life.

The maturing of the Indian national struggle for independence forced the colonial government to address problems in the healthcare sector and in education. In recognition of the positive changes brought about by Bhatia in Grant Medical College, the government appointed him as a Deputy Director-General and later, the Director-General of health services. Dr Bhatia’s observations as a member of the Scientific Mission to the USA, Canada and the UK in a sense prepared him for the role that he was to assume as a Secretary, Health Ministry and Director-General, Health and Medical Services, Hyderabad in June 1950.

Although, he greatly admired the progress made by the American healthcare system, he was also aware that this model could not be adapted to India, given the considerably higher levels of poverty and the lack of primary healthcare facilities in rural parts of the nation. Bhatia was greatly influenced by Sigerist’s reflections in his work on socialist medicine that propounded the adaptation of the Soviet healthcare framework to India. Bhatia played a crucial role in rebuilding the health system in the erstwhile princely state of Hyderabad by focusing on the needs of women and children. In addition, his efforts included promoting sanitary measures amongst the population to tackle epidemic diseases, effecting certain structural changes to make healthcare available to the downtrodden and also, encouraging the growth of research in colleges. As he wrote:

This is then our task ahead – to prevent all preventable diseases in India. To provide adequate facilities for the treatment of all the sick persons in town or in the country, rich or poor alike. To provide the best possible training for our doctors, nurses and other personnel required for health services. To raise the standard of nutrition of our people, to impart health education so that all become health-minded, to make our mother-land the healthiest land on earth [...] To perform our duties in a spirit of kindness, grace and goodwill and charity in thought and deed towards all mankind, without any distinction of caste, colour and creed and thus promote harmony, understanding and peace amongst all the people on this earth (5).

Conclusion

In the latter part of the 20th century, the world witnessed a drive towards a more biomedical approach to health, as well as a growing dependence of physicians on modern technology. The other prevalent trend was the rise of “pharma”, which promoted the science of medicine while undervaluing the art and social responsibility of medicine and its practitioners. Bhatia was critical of the latter approach and insisted that medical education be firmly based on the principles of the humanities and ethics. In his article “Physician in [the] Making,” he writes:

Medical education aims at producing physicians who are not only skilful but also wise in the application of the science and art of medicine. In order to become wise, the physician must understand the physical and social setting in which the people who come to him as patients live. The study of medicine should thus embrace the study of life in all its aspects – physical, psychological and social. The physician should have a clear and comprehensive appreciation of such patterns of society in the life of the individual (30).

Contemporary India is becoming popular in the field of health tourism, given the relatively good quality and low cost of the healthcare provided in some quarters. Several pertinent questions emerge from the reflections in this article and from those of individuals who witnessed India’s transition from a colony to an independent nation. Have we fulfilled the promise made after Independence to cater to the needs of the marginalised sections by making healthcare affordable to all? If not, why not? Has our focus on the expansion of medical education to achieve targets of physician-to-people ratios compromised the quality and training of doctors as “social physicians”? Do graduating medical students even recognise the social role that people like Bhatia so tirelessly enunciated? We might do well to remember one of the philosophies which guided the establishment of the health system in the nation.

A free India has a great part to play in bringing about peace and goodwill among the nations. The medical profession, by virtue of its noble ideas of charity and endeavour to bring health and healing to mankind, as a whole, can make to it a unique contribution of inestimable value (5).

References

1. Bhatia SL. Some recent trends in medical education, April 6, 1966. Reprinted from *Current Medical Practice*. 1963 June;7(6):439–43.
2. Bhatia SL. The social and humanitarian aspect of the tuberculosis problem. Speech delivered at: Meeting of the Society for Promoting Scientific Knowledge, March 15, 1917, Lahore, Punjab, India.
3. Bhatia SL. The medical profession in the present crisis in India: warfare and the art of healing; 1970 Bangalore.
4. Bhatia SL. Nation’s health. *Deccan Herald*. 1960 [date and pages unknown].
5. Bhatia SL. Our task ahead. Speech delivered at: Meeting of Medical Society of Andhra Medical College, August 15, 1947; Vizagapatam, India.
6. Flexner A. *Medical education: a comparative study*. 1st ed. New York: Macmillan; 1925, p.176.
7. Bhatia SL. Medical education. Reprinted from *Indian Medical Gazette*, 1931 September; 66(9).
8. Bhatia SL. Some modern trends of medical education. Paper presented at: Meeting held under the Chairmanship of HC Chakravarty at the Municipal Hall, July 21, 1945, Shillong, India.
9. Bhatia SL. Social service in hospitals, April 18, 1948 [Hindi].
10. Bhatia SL. On medical education. Speech delivered at: the Mysore Medical College, September 8, 1957; Mysore, India.
11. Report of the Health, Survey and Development Committee, Vol. 3, Appendix 58, List of written memoranda considered by the Health Survey and Development Committee; p.342. Simla: India Press; 1946. Referenced by: Abraham D, Vaz M. Erratum for: *Natl Med J India*, 2016 Mar-Apr;29(2):114.
12. Volume 85, The two faces of medical education: Flexner and Osler revisited; Referenced by Tauber AL MD FACP Boston University School of Medicine. Erratum for: *Journal of the Royal Society of Medicine*. October 1992.
13. Bhatia SL. Remarks made by Captain SL Bhatia, at a meeting of the Grant College Medical Society; April 7, 1925.

14. Abraham DM, Vaz M. The institute of history of medicine in Bengaluru: a lost opportunity. *Natl Med J India*, 2015 Sep-Oct;28(5):245-9.
15. Bhatia SL. Recent advances in medical education in India. *Current Medical Practice*. 1963 June;7(6):439-43.
16. Borkar G. *Health in independent India*. New Delhi: Ministry of Health (IN), Government of India; 1957, pp.6-7.
17. Gangulee N. Health and nutrition in India [Internet]. London: Faber and Faber; 1939 March [cited 2016 Mar 30], pp.124. Available from: <https://archive.org/details/healthandnutriti014843mbp>.
18. Bhatia SL. Some problems of medical relief. Speech delivered at a meeting of the Cochin Medical Association, at Ernakulam, June 21, 1948.
19. Bhatia SL. Industrial colony for tuberculosis patients. Speech delivered on the occasion of the laying of the Foundation Stone of the Industrial colony for Ex-Tuberculosis patients by Sri. C. Rajagopalachari, Governor General of India at Tambram; August 25, 1948.
20. Bhatia SL. Inaugural Address at the Scientific Session of the 3rd Hyderabad state Medical Conference held at Raichur, November 11, 1951.
21. Borkar G. *Health in independent India*. New Delhi: Ministry of Health (IN), Government of India; 1957, pp.30.
22. Bhatia SL. Inaugural Address delivered at: the 3rd Refresher for Medical Officers at the Osmania hospital, March 5, 1953; Hyderabad, India.
23. Bhatia SL. Social factors in medicine. Speech delivered at: the Annual Day Celebration of the Old Students Association, University Medical School, March 11, 1956; Bangalore, India.
24. Bhatia SL. Convocation address. Speech delivered at: the Convocation of the College of the Physicians and Surgeons of Bombay, January 8, 1954. Reprinted from *Indian J Med Sci*. 1954 May;8(5):272-76.
25. Bailey TG. Early Hindi and Urdu poetry no. IV. Bulletin of the School of Oriental Studies [Internet]. 1932 [cited 2016 Mar 31];6(4):941-44. Available from: <http://www.jstor.org/stable/606902>
26. Ramanna M. *Healthcare in Bombay presidency: 1896-1930*. 1st ed. New Delhi: Primus; 2012, pp.25.
27. Polu SL. *Infectious diseases in India, 1892-1940: policy making and the perceptions of risk*. 1st ed. London: Palgrave Macmillan; 2012, pp.50.
28. Bhatia SL. Public health administration and sanitation in Bombay; 1921.
29. Harrison M. *Public health in British India: Anglo-Indian preventive medicine 1859-1914*. 1st ed. Cambridge: Cambridge University Press; 1994, pp.227.
30. Bhatia SL. The physician in the making. Presidential Address at: the Annual Conference of the Association of Physicians of India; 1954 May, Calcutta, India. (Reprinted from *Medicine* 1954 May;1(4): p 3.

If you are looking for India's finest medical journal, then here it is.

The National Medical Journal of India is a premier bi-monthly multi-disciplinary health sciences journal which publishes original research, reviews, and other articles relevant to the practice of medicine in India. The journal aims to instruct, inform, entertain and provide a forum for the discussion of social, economic and political health issues. It is included in the Index Medicus

SUBSCRIPTIONS

	One year	Two years	Three years	Five years
Indian	Rs 600	Rs 1100	Rs 1600	Rs 2600
Overseas	US \$85	US \$150	US\$220	US\$365

(Pubmed), Excerpta Medica (EmBase), BIOSIS, Current Contents/Clinical Medicine and Science Citation Index.

Personal subscriptions paid from personal funds are available at 50% discounted rates

Bank draft/cheque should be made in favour of *The National Medical Journal of India*. Please add Rs 75 for outstation cheques. Journals can be sent by registered post on request at an added cost of Rs 90 per annum. Requests to be made at the time of subscribing.

Please send your subscriptions, queries to:

The Subscription Department, *The National Medical Journal of India*, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110029.

Tel: 91-11-26588802

FAX: 91-11-26588663

E-mail: nmji@nmji.in

Website: www.nmji.in



The National Medical Journal of India
On the frontline of Indian medicine