



Challenges in conducting the undergraduate medical program in a medical school in Nepal: a personal selection

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ARTICLE INFO

Received : 10/01/2012
Accepted : 25/07/2012
Published : 01/12/2012

KEYWORD

Medical school
Challenges
Developing nation
Undergraduate student

ABSTRACT

In Nepal, a developing country in South Asia, many medical schools have been opened in the private sector recently. KIST Medical College is a private medical school in Lalitpur district affiliated to Tribhuvan University. The college admitted the first batch of undergraduate medical (MBBS) students in 2008 and has recently admitted its fourth batch of students. Nepal, a country in transition had suffered from a decade long violent conflict. The country is in the process of writing a new constitution and suffers from political instability which may have a contributory role to many of the challenges which I will be enlisting in the article like frequent general shutdowns, load shedding, reduced number of patients in the teaching hospital and problems in conducting the academic calendar on schedule. The challenges mentioned have been listed on the basis of the personal experience of the author and following discussion with colleagues in the institution and in other medical schools. Statement of the problem: Among the major ones are shortage of electricity and blackouts in winter, voltage fluctuations, frequent bands or general shutdowns, reduced number of inpatients in the teaching hospital during certain seasons and problems with internet connectivity. Possible solutions: The solution of many of these problems may be linked to political stability. Load shedding can be reduced by greater investment in production capacity and using other energy sources and reducing dependence on hydroelectricity. Creating conducive climate for investment and industrial growth is necessary. The challenges can be overcome by various actors (political and non-political) working together in cooperation and creating a peaceful and stable political climate.

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Introduction

Nepal is a developing country in South Asia situated between China to the north and India to the south, east and west. Recently, a number of medical schools have opened in the country with the vast majority being in the private sector [1]. KIST Medical College (KISTMC) is a private medical school in Lalitpur district of the Kathmandu valley committed to excellence in holistic healthcare, education and research. The college is affiliated to the Institute of Medicine, Tribhuvan University for the undergraduate medical (MBBS) course. The MBBS curriculum is organ and partly problem based as well as community oriented. The six basic science subjects of anatomy, physiology, biochemistry, pathology, pharmacology and microbiology are taught in an integrated manner during the first two years of the course. Student spend four hours in the hospital every week learning history taking skills in the first and physical examination skills in the second year [2]. Community medicine occupies an important place in the curriculum and students spend one month in rural or semi-rural communities studying health problems in the wider setting of the family, village, society and community during the first year. During the third year students are involved in family health exercises and are posted in district hospitals and peripheral health facilities during the fourth year [2].

Nepal has been going through tremendous changes in the last fifteen years; a decade long conflict had concluded in 2006 and a peace accord signed. The country is in the process of preparing a new constitution, a process which has been delayed. The unstable political situation and other problems create challenges for conducting educational programs in a planned and systematic manner. Political instability creates uncertainty among investors who are reluctant to invest their money in the country. Reduced investment especially in the hydroelectric sector is partly responsible for reduced number of new projects and for supply not keeping pace with demand. Also development of hydroelectric power has a long gestation period due to the long time required to

construct new projects. There are frequent general shutdowns which affect life and economic activity in the country.

KISTMC admitted its first batch of MBBS students in 2008 and the fourth batch of students were admitted recently in November 2011. I am working as the program coordinator for the first two (basic science) years of the MBBS program and in this article I am sharing the major challenges we have faced or are still facing and our attempts to address these. The problems noted were arrived at based on the author's experience and following discussion with medical educators in the institution and in other medical schools in the country. These have not been arranged in a logical framework and represent a personal selection by the author. It is possible that certain problems may not have been mentioned in the article.

Problems highlighted in the article

Load shedding: The major challenge faced by the country and the institution during the winter months (November to February) is heavy load shedding. This is mainly due to reduced water level in the rivers during winter and also installed generation capacity not keeping pace with increasing demand. In recent years a minimal load shedding (two to four hours per week) has been introduced even during the summer and monsoon months. Nepal mainly depends on hydroelectricity. Electricity cuts can extend up to sixteen hours a day in peak winter. All hospitals, colleges and schools in Nepal including KISTMC have installed generators to cope with this crippling power outage. However, another problem faced periodically is shortage of petroleum products. This can be a major problem in the Kathmandu valley where a large proportion of the country's vehicles and institutions are located.

Due to this shortage generators are often not operational. During electricity blackouts classes are sometimes conducted without using audiovisual aids like overhead and LCD projector and using the time tested method of white/black board. Colleges can use an inverter

backup system for the classroom. Inverters charged by solar power can also be used. However, institutions may be reluctant to spend on these solutions after investing huge amounts on generators. In our institution for about a week last year (2011) we conducted classes using a whiteboard and marker pens. Lack of power also creates problems in conduct of practical sessions.

Shutdowns: The other major problem is 'bandhs' or stoppage of all economic activity. Bandhs can be of different types. The first is a 'chakka jam', a stoppage of vehicular movement but shops and businesses are open and allowed to function. The second is a complete shutdown of vehicles, shops, educational and business establishments. KISTMC is especially prone to be affected by bandhs due to two major reasons. The first is the number of bandhs is comparatively more in the Kathmandu valley, the political and economic capital of the country as different bandh organizers try to exert pressure on the government. The other reason is majority of our students and faculty members do not stay in the campus. KISTMC is only partly residential. On bandh days classes are invariably cancelled. As the time table is based on an integrated, organ system-based curriculum this invariably creates difficulties. A major problem is practical sessions which get cancelled on certain days creating problems in scheduling.

Academic calendar: As the program coordinator I work out the calendar of operation for the academic year (November-October) at the beginning of November. The advice given to me by the Principal is always to keep the schedule flexible. The possibility of bandhs, shutdowns, unplanned student activities and other problems have to be always considered. During the last three years we have been able to complete sessions within the requisite time frame. The other problem we faced is that most often the dates of the final university examinations held at the end of the first year and second year are only communicated two or three months before by the university.

The same problems which affect us also affect the academic planning in the university. There

are frequent rumors circulating about the examination dates being preponed or postponed affecting the planning of our course schedule. At the end of each organ system we conduct an internal assessment and organize a correlation seminar/problem-based learning session [3].

Ten days are allotted for these activities. Last year due to various problems we had to shorten the time period allotted and cancel the assessments at the end of one organ system. We have three organ systems in the first year and six systems in the second. In the first year we set apart a month for the community diagnosis program where students spend time in rural or semi-rural communities.

Voltage fluctuations: The other major problem we face is frequent interruption of power supply on certain days in the year and fluctuation in the voltage at which the power is supplied. These interruptions are unscheduled and unlike the load shedding does not follow a pre-circulated schedule. This leads to damage to computers and other equipment and money is spent on replacements and expensive repairs. Power shortages have a crippling economic cost. In KISTMC our generators consume 30 liters of diesel an hour and a liter of diesel costs about Rs. 80 (1US dollar) at current market prices. So for each hour of generator operation the institution invests 30 US Dollars on fuel for the generator.

Reduced number of inpatients: The other problem faced is reduced number of patients in the teaching hospital especially in certain departments during the autumn and winter seasons. The number of inpatients is particularly affected. Autumn is the season for festivals in Nepal and people do not generally like to stay in a hospital during this time. The number of patients picks up during the summer and monsoon months. Also these days many surgical procedures do not require prolonged hospitalization.

This is a problem faced by many other colleges in the country especially those in the Kathmandu valley which has a large number of hospitals competing for a limited number of patients.

Colleges in the 'terai' (the plains to the south of the country adjoining India) have sufficient patients mainly due to the high population density and less medical facilities in this area. One option for KISTMC would be to conduct more teaching-learning activities in community health facilities.

We are handicapped in this by frequent blockades, fuel crisis and lack of suitable accommodation and other facilities in the community. Also the institution has to work harder at creating proper linkages with the community and peripheral health facilities. The college has been conducting learning in the community through tie-ups with orphanages, children's homes and other facilities in pediatrics. Also a large percentage of clinical teaching occurs in the outpatient departments. Many good quality computer-based resources are available and the college has recently invested on a simulation skills laboratory for students.

Internet and electronic media: The institution has a computer room with over twenty-five computers all connected to the internet. Wireless internet facility is also available. In recent years internet connectivity has improved in Nepal and the facility is available in most cities and towns. The major problem is the slow internet speed which makes it difficult to perform many functions especially uploading and downloading files. Nepal as a resource constrained country has free access to the HINARI service of the World Health Organization providing access to over 3500 journals [4]. The service however requires good internet speed. High speed internet services are very expensive and have strict quota limits for downloading. I also use the internet to communicate with students and faculty members and informing them of different academic activities.

Problems faced by other medical schools within the country and outside

In Nepal, the Institute of Medicine, the first government run medical school was set up in the mid-1970s [5]. There has been an explosion in medical schools recently. In Nepal at present

there are three government run medical schools. These are the Institute of Medicine (IoM), the BP Koirala Institute of Health Sciences (BPKIHS) and the Patan Academy of Health Sciences (PAHS). These institutions were started in collaboration with foreign governments and universities. IoM was supported by the government of Japan and has a dedicated electricity supply line. Being non-residential they do face problems during shutdowns and difficulty in completing the academic calendar in time.

Being a government hospital and an old well established teaching institution they do not face problems of reduced patient load. BPKIHS was set up with financial and technical support from the Government of India. They have a huge completely residential campus and do not face any problems during general shutdowns as both students and faculty stay within the campus. Being a government hospital they also do not face the problem of low patient load. PAHS has an old well established hospital, the Patan hospital attached to it. The institution being non-residential is affected during bandhs and general shutdowns.

Among the private medical schools, Manipal College of Medical Sciences (MCOMS), Pokhara was the first institution to be set up followed by College of Medical Sciences (CMS), Bharatpur and Nepalgunj Medical College. In the last ten years many institutions have been established in the country. Some are fully residential while others are not so. All these institutions have been affected to a certain degree by the political instability and infrastructural and other problems.

Medical schools in other developing countries also face resource constraints. Challenges were noted in a study conducted among medical schools in sub-Saharan Africa [6]. Due to physician and health worker shortages most countries were scaling up medical education. Among the major problems identified were faculty shortages and lack of infrastructure in certain key areas. At Jimma University in Ethiopia, power, water, and telecommunications

are unreliable, jeopardizing training and innovation [5].

This is similar to the situation observed in our medical school. At Ibadan University in Nigeria, informants participating in the study had expressed concern about daily power outages [5]. Departments have to purchase generators for clinical and teaching functions. All medical schools in Nepal have to invest on generators and on fuel for running this which constitutes a heavy investment.

At Catholic University of Eastern Africa, challenges include an insufficient number of computers, restrictions in internet connectivity, and the absence of student hostels [5]. At KISTMC a similar set of problems were noted. Shortage of student and faculty housing remains a problem. This however has not been discussed in the article. Reluctance to invest money in infrastructure due to various reasons including the unstable political climate may be responsible.

Suggested solutions

The solution of most of these problems depends on providing a stable political climate and encouraging investment in the country. Solar power could be explored to solve the load shedding problem but the high initial investment could be a stumbling block. The government could provide loans to schools to set up these facilities. The solution towards avoiding bandhs and shutdowns can be a broad consensus among political parties to avoid violence and intimidation and not inconvenience the general public. This has not been achieved at present though periodic efforts have been made. Increasing internet speed requires investment and development of infrastructure. Many private companies have started internet services in recent years and internet penetration within the country has improved. Institutions can also tie with service providers to provide dedicated internet services within the institution.

Conclusion

The experience of KISTMC to a large extent is true for other medical schools and even other educational institutions in the country. We have been partly successful in dealing with these challenges. Flexibility, keeping an open mind, close cooperation between students and faculty members and the emphasis on communication are our strengths. Our experiences would be of interest to medical schools in other developing countries which share a similar situation.

Reference

1. Nepal Medical Council. Recognized Institution Medical College. <http://www.nmc.org.np/recognized-institution/medical-college.html>. (Accessed 17th February 2012)
2. Shankar PR. Coordinating the undergraduate medical (MBBS) basic sciences program in a Nepalese medical school. *Australasian Medical Journal* 2011; 4:322-6.
3. Shankar PR. Conducting correlation seminars in basic sciences at KIST Medical College, Nepal. *J Educ Eval Health Prof.* 2011; 8:10.
4. Shankar P. HINARI: Providing Access to Scientific Literature in Resource Constrained Settings. *WebmedCentral Medical Education* 2011; 2(10): WMC002332.
5. Dixit H. Development of medical education in Nepal. *Kathmandu Univ Med J.* 2009;7:8-10.
6. Mullan F, Frehywot S, Omaswa F, Buch E, Chen C, Greysen SR, et al. Medical schools in sub-Saharan Africa. *Lancet.* 2011; 377:1113-21