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COMMENTARY

Attracting and retaining doctors in rural Nepal

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ABSTRACT

Introduction: In Nepal, a number of private sector medical schools have opened recently; although sufficient numbers of doctors are graduating there continues to be a doctor shortage in rural areas. This article analysed the rural doctor shortage in Nepal and reviewed the international literature for strategies that may be suitable for use in Nepal.

Methods: Original research articles, reviews, magazine articles and project reports dealing with Nepal and other developing countries during the period 1995 to 2010 were sourced via Google, Google Scholar and Pubmed. Full text access was obtained via WHO's HINARI database.

Results: The health workforce in Nepal is unevenly distributed resulting in doctor shortages in rural areas. The recent introduction of mandatory rural service for scholarship students was aimed to reduce the loss of medical graduates to developed nations. High tuition fees in private medical schools and low Government wages prevent recent graduates from taking up rural positions, and those who do face many challenges. Potential corrective strategies include community-based medical education, selecting rural-background medical students, and providing a partial or complete tuition fee waiver for medical students who commit to rural service. Traditional healers and paramedical staff can also be trained for and authorized to provide rural health care.

Conclusions: A range of strategies developed elsewhere could be used in Nepal, especially community-oriented medical education that involves rural doctors in training medical students. The reimbursement of tuition fees, assistance with relocation, and provision of opportunities for academic and professional advancement for rural doctors should also be considered. Government investment in improving working conditions in rural Nepal would assist rural communities to attract and retain doctors.

Key words: community-based medical education, developing countries, doctors, medical schools.

Introduction

Although human resources are acknowledged as an important component of any health system, health workforce issues have been neglected in many developing countries[1]. Emigration to developed nations depletes the pool of health workers in developing nations[2], although the use of ethical recruitment practices and initiatives by developed nations to assist the retention of health workers in their home country may reduce the impact of emigration[3]. In this article, the problem of health workforce shortages in rural Nepal and strategies adopted elsewhere to address these are examined.

Methods

Original research articles, reviews, magazine articles and project reports dealing with Nepal and other developing countries during the period 1995 to 2010 were sourced via Google, Google Scholar and Pubmed. Full text access was obtained by hyperlinks from the searched article's abstract, or via WHO's HINARI database.

The search terms included 'doctors in developing countries', 'health manpower in Nepal', 'doctors for rural Nepal', 'initiatives to retain doctors in rural areas', 'traditional healers in health care delivery'.

Results and Discussion

Health workforce in Nepal

Nepal is a developing country in South Asia located between China and India. In 2006 the population was 25.6 million[4]. There are 15 medical schools in Nepal producing more than 1000 doctors annually[5]. The country spends 5.3% of gross domestic product on health and has 0.08 health centers per 100 000 population and 2 doctors of modern medicine per 10 000 population[4]. In 2006, for every 10 000 population there were 2 nurses, 0.1 pharmacists and 6.3 community health workers. Ten of the 75 districts (13.3%) had less than 40 doctors; 34 districts (45.3%) had between 40 and 80 doctors; 23 (30.7%) had between 80 and 120 doctors; and 8 districts (10.7%) had more than 120 doctors[6]. When the number of doctors per 10 000 population in each district was calculated according to 2001 census population data, 5 districts had fewer than 1.5 doctors per 10 000 population, 32 had between 1.5 and 3 doctors, 31 had between 3 and 5 doctors, and 7 had more than 5 doctors per 10 000 population. Most doctors practice in urban areas, which is a major health system issue[7].

The migration of health workers from Nepal is also a major problem, although it is poorly documented. This phenomenon began in 1950s, 60s and 70s post-colonial India, Pakistan and Sri Lanka and later spread to Bangladesh and Nepal[8]. India loses the highest number of doctors in the region, followed by Pakistan, Sri Lanka, Bangladesh and Nepal[9]. Approximately 300 doctors leave Nepal for the USA and other developed countries annually[10]. Many former students of the author are now in the USA or Australia, or are preparing to emigrate.

The recent introduction of compulsory rural service after graduation in Nepal has helped retain recently graduated doctors[11]. Such programs are an acknowledged mechanism for maintaining the health workforce in underserved areas[12], although they may not provide a permanent solution.

High tuition fees and low remuneration

The shortage of doctors in rural areas is often used as the reason for opening (mostly private-sector) medical schools in South Asia. These colleges depend on student fees for survival. The cost to self-financing students for a basic medical degree (MBBS) is US$25 000–55 000, depending on the quality and prestige of the medical school[13]. The government pays approximately Rs.20000 (less than US$300) per month to new medical graduates working in a primary health center. With this low return on their educational investment very few self-financing students serve in rural Nepal.

Rural service for scholarship students

Nepalese-owned private medical schools provide 10% of total seats and foreign-owned schools provide 20% of total seats to government selected students on full tuition fee scholarships. The recent mandatory 2 year rural service for scholarship students presents these new graduates with many challenges. There is minimal laboratory and technical support. Telephone services are generally unavailable. Both colleagues and food choices and are limited.

The government remote area allowance for isolated areas is not sufficient to attract and retain doctors. Overseas initiatives include financial support to help rural communities attract and retain doctors, reserving post-graduation seats for doctors who have served in rural areas, involving rural doctors in teaching medical students and arranging continuing education programs for rural doctors[14,15]. A recent narrative literature review examined strategies that influence health personnel to remain in middle- and low-income countries and found that impacting factors are complex[16]. It suggested the strategy of 'bundling' interventions such as improving living and working conditions and environments, and offering professional development opportunities.

Educational initiatives to create doctors for rural areas

The curriculum of the government funded Institute of Medicine (IoM), the first medical school in Nepal, emphasizes community medicine and public health. The IoM admits 42 scholarship students and 18 paying students to the MBBS course annually; however, many of its graduates also leave Nepal. Many private medical colleges are affiliated with IoM and follow a community based model of medical education[4].

A rural family practice residency (MD in general practice; MDGP) commenced in 1982 but it has not proved popular among medical graduates. Following an intensive awareness campaign about the program, in 1998 the number of MDGP program candidates increased to 12[17]. The following year 6 residency positions were given to physicians from India to receive training in both Nepal and India (the latter from the Christian Medical Alliance of India). Currently, residency training centers in Nepal include the Tribuvan University Teaching Hospital, Kanti Children's Hospital, the Maternity Hospital and Patan Hospital (all in Kathmandu); and the Western Regional Hospital (Pokhara), United Mission Hospital (Tansen), District Hospital (Surkhet), and the United Mission Hospital (Amp Pipal)[18]. The BP Koirala Institute of Health Sciences in Dharan admits 6 students annually to an MD program in general practice and emergency medicine, which shares many features with the MDGP program[19].

Recently a group of dedicated Nepalese physicians supported by international colleagues has established a new health sciences university, Patan Academy of Health Sciences (PAHS), to train health professionals for rural health in Nepal[17]. The PAHS admits 60 students to the MBBS program and gives preference to applicants from rural Nepal, to socially disadvantaged groups, and to health assistants who have served at least 2 years in a rural area. Of the 60 students, 20% are on a full scholarship, 40% are on a partial scholarship and 40% are full-fee paying. Community health sciences are an important part of the curriculum and occupy up to 25% of course time[20].

At KIST Medical College in Lalitpur, the medical humanities module 'Sparshanam' (Sanskrit for 'touch') was conducted for first year medical students, with the goal of producing compassionate and humane doctors[21]. The institution admits 100 students to the undergraduate medical (MBBS) course each year. First year students complete a one-month residential community diagnosis program in rural areas of the Lalitpur District.

Health Partnership Nepal is a sustainable relationship between St George's University of London, Nepal Medical College and Teaching Hospital and other healthcare providers in Nepal[22]. Nepal Medical College admits 100 students annually to its MBBS course. The project

supports the provision of health care to poorly serviced areas. The aim is to use doctors qualified in primary care and a number of specialties to support and improve existing services, along with students who, it is hoped, will learn from the experience and continue the project after graduation.

Many medical schools have re-oriented their curriculum and training to equip students for rural practice, including Nepal's IoM[23], Mahatma Gandhi Institute of Medical Sciences in India[24] and certain medical schools in South Africa[25]. The results have been mixed, for unless the training is supported by a government commitment to rural health in providing incentives and good working conditions the graduates may not be retained.

Attracting and retaining doctors in rural areas

Developing the facilities in rural areas appears to be an effective strategy, and this has worked especially well in Kerala State in India and in Sri Lanka where villages offer almost all the facilities available in towns[26]. However this is not an immediate solution. It will only be possible to achieve this in other parts of South Asia with sustained economic growth, distributive justice and time.

Developed nations such as Canada and Australia have taken various steps to ensure health care for their rural populations[27,28]. There are special incentives for doctors who serve in rural areas that increase with the duration of service. Assistance is provided with relocation and for the repayment of student loans. A 2004 study that evaluated the effectiveness of programs that provide financial incentives to physicians in exchange for a rural or under-served area return-of-service (ROS) commitment, concluded that ROS programs have achieved their primary goal of short-term recruitment; however, there was less success with long-term retention[29]. For long-term success other strategies may be required, such as medical education initiatives, community and professional support, differential rural fees and alternate funding models.

In other international strategies, rural doctors have been supported to retain their academic connections through distance and periodic on-site learning and training of medical students in rural and community practice[30]. In Japan, Jichi Medical University (JMU) was established in 1972 with the mission to produce rural doctors for nationwide distribution[31]. The JMU has adopted a contract-based 'home prefecture recruiting scheme' in which students recruited from all 47 prefectures are required to work in their home prefectures for 9 years (including 6 years of rural service) after graduation, in exchange for having undergraduate medical education tuition fees waived. Of all the JMU medical graduates, 69.8% settled in their home prefectures after their contract was completed. The US Rural Medical Education Program addresses medical workforce needs by focusing on reducing rural health disparities. The program recruits rural-background candidates, offers a rural-focused curriculum, and has evaluative components to track outcomes[32]. Other features are a Recruitment and Retention Committee of rural community members; special rural-focused topics and events during the first 3 years' undergraduate medical education; and a required fourth-year, 16 week rural preceptorship during which students work with primary care physicians and conduct community-oriented primary care projects. However few developing nations have the resources to implement such strategies.

Using paramedical staff and traditional healers for healthcare delivery

Developing nations such as China, many African countries and even Nepal are using trained paramedical staff to serve in rural areas. In Nepal, a discontinued scheme has been reintroduced by PAHS, and Certified Medical Assistants are eligible for selection into the MBBS course after some years of service. In Africa it has been shown that periodic high quality training and the use of standard treatment guidelines and essential medicines ensure paramedical staff are able to provide high quality care[33]. A recent article from Nepal suggests using 'the five Cs' to keep health workers happy and productive: communication (internet and telemedicine facility), continuing medical education, connection with a

higher hospital, community management of hospital/s, and children's education[34].

Traditional healers (THs) have been trained to deliver health care effectively in the rural areas of Kavrepalanchok district near Kathmandu, Nepal[35]. Compared with untrained THs, trained THs were found to have a better knowledge of allopathic medicines, to practice modern treatment using first aid kits, and were more likely to refer patients to government health workers. A TH training program in primary eye care services reduced the use of traditional eye medicines and improved referral practices in Nepal[36]. However, there are potential problems in the use of THs for rural medical services, such as the lack of government recognition of the TH role, an absence of dialogue between THs and the government health system, and a lack of trust between THs and allopathic health workers[37].

Conclusions

The health workforce in Nepal is unevenly distributed, with a shortage of doctors in rural areas. The migration of doctors to developed nations is a contributing problem that has recently been addressed by the government with the introduction of mandatory rural service for scholarship students. High tuition fees in private medical schools and low government wages prevent graduates from working in rural areas. Compounding this are the many challenges in rural service faced by recently graduated doctors.

Suggested strategies for use in Nepal include government assistance for rural communities financially in attracting and retaining doctors, including the provision of improved working conditions and assistance with relocation. In addition, educational strategies should be considered, such as the reservation of post-graduate seats for doctors who have served in rural areas; involving rural doctors in teaching medical students; and arranging continuing education programs for rural doctors. Community-based medical education, selecting medical students who have a rural background, and providing a partial or complete tuition fee waiver in return for rural service may also be effective. Traditional healers and paramedical staff can be trained in and authorized for rural health provision.

The future health of the underserved and deprived rural populations of South Asia and Nepal depends on realistic, research-based actions being undertaken now.

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