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The organisation of health care in Nepal

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Abstract—The focus of this paper is to examine the organisation of health care in Nepal from the literature available. After setting the study in context and examining health care in general, a more in-depth look is taken at Primary Health Care (PHC) and how this recent emphasis is affecting nurse education. This leads into an analysis of whether or not nurses are the most appropriate personnel to deliver PHC. The fundamental issues of improving adult female literacy rates and providing a clean water supply are suggested as means whereby Nepal's health provision could be greatly improved.

Introduction

This paper sets out to explore the organisation of health care in Nepal from the perspectives that are addressed in the literature. A lack of books on the subject meant that information was gathered from relevant journal articles, the United Nation's Children's Fund (UNICEF) Grant (1991) and the World Bank (1991). Further information about the country of Nepal and the background of nurse education was obtained from personal communication with staff working for the International Nepal Fellowship (INF), a Christian mission working to improve health care in Nepal.

The perspectives addressed in the journal articles fall into three main categories; treatment for common Nepalese illnesses, Primary Health Care (PHC) and nurse education. Financial aspects of the provision of health care are barely mentioned in the literature apart from Sharma and Ross (1990), who state that foreign assistance has become an important factor and Crawford and Robinson (1989) who point out that patients are expected to pay for eye operations, but if they are unable to pay, treatment is provided free.

Articles relating to specific illnesses are mainly concerned with leprosy, intestinal diseases and ophthalmic problems. Little appears to have been written in recent years about tubercu-

losis, although this is still a very common problem in Nepal. A surprising discovery, on reading through the literature, was the total lack of any mention of AIDS. This may be because, as yet, AIDS is only a small problem in Nepal when compared with the overwhelming problem of other illnesses.

In order to begin to understand why Nepal's health care is organised in the way that it is, an insight into some of the geographical, demographical, socioeconomic, political, cultural and epidemiological background of the country is necessary.

Background factors

Geography

Nepal is a mountainous, land-locked country of about 100 miles by 500 miles, lying between India to the south and China to the north. There are three natural geographical regions; the Himalayan mountain region in the north, the Terai plains in the south and the mid-mountain region in the centre (Sharma and Ross, 1990). The mountainous terrain and the lack of airlink services or roads suitable for vehicular traffic, make the delivery of health care a particularly difficult problem in many areas of Nepal.

Demography

Demographical statistics show that Nepal has a population in excess of 18 million people, of which 43% are under the age of 15 years. The average fertility rate is 5.8 children, with only 15% of married women of childbearing age using family planning methods (World Bank, 1991; Grant, 1991). There are two likely explanations for this low rate of contraceptive usage. Lack of knowledge of appropriate methods is the most likely explanation, as most of the population are Hindu (Sharma and Ross, 1990) and therefore would not object on religious grounds, as would a predominantly Muslim population. An alternative reason may be that Nepalese women have always produced large families in the hope that some children would survive into adulthood.

Although infant mortality rates have fallen from 187 deaths per 1000 live births in 1960 to 125 deaths in 1989, these figures remain amongst the worst in the world and compare extremely unfavourably with the British infant mortality rate of 8:1000 (Grant, 1991). Estimates of how many Nepalese births are attended by a professional vary from 6 to 10%. Maternal mortality rates are high, and it is estimated that 15 women a day die in childbirth (Presern, 1992). This makes Nepal one of the few countries in the world where the average life expectancy for men at 52 years is higher than women, at 51 years.

It is estimated that in 1984 (the latest available figures) there was one doctor to every 30,000 people in Nepal, and one nurse to every 4680 World Bank (1991), but these figures need careful interpretation. Nepal is unusual in that only 9% of the population live in urban areas, however, most of the medical and nursing personnel are concentrated in these areas (Justice, 1984; Kanno and Dixit, 1989). Therefore whilst a minority of the population are receiving adequate health care, 91% of the population who live in inaccessible rural areas and exist mainly on subsistence farming receive hardly any health care at all. Of this large rural population, only 25% have access to a safe water supply (Grant, 1991).

Socio-economic

When examining the lowest income economies in the world, the World Bank report (1991) places Nepal eighth out of the 124 countries reviewed. It is estimated that the average annual *per capita* income in 1989 was $180.

Free schooling is now available for Nepalese children, but only from the ages of 6–8 years. Between 1965 and 1988 the percentage of children enrolled in primary education rose from 20 to 86% (World Bank, 1991). However, this overall figure hides the fact that still only 57% of girls are in primary education (World Bank, 1991). In many families who are struggling to exist on inadequate means, education obviously remains a low priority.

The adult literacy rate is estimated at 22% (World Bank, 1991). Again, this overall figure hides a wide gender difference, with 34% of men and 11% of women being literate (Grant, 1991). Even this figure of 11% literate females needs careful interpretation, as more urban women are able to read than their rural counterparts and wide disparities exist. Pant (1991) refers to female literacy in Nepalese villages as being about 6%. These figures all have a bearing on the implications for the introduction of health care policies which will be discussed later.

Political

The political situation in Nepal is changing rapidly. The country was completely closed to the outside world until 1951 and was governed by a mediaeval autocracy—the Rana regime. Unrest began during the second world war when many thousands of Nepalese left their homeland to serve in Gurkha regiments abroad. During this time, they saw conditions in other countries vastly superior to their own. This unrest culminated in a revolution and the overthrow of the Rana regime in 1951.

A new era then began, with the country opening up to foreign aid and development, and the conquest of Everest in 1953 was as a direct result of the outside world being allowed entry into Nepal. However, although modernisation and development was allowed to take place, the King forbade all political parties and became the head of a one-party state. This situation existed until 1990 when, following the rise of the popular people's movement, the King declared a new constitution which turned Nepal into a multi-party democracy with the King as constitutional monarch.

Thus, in 40 years, Nepal has been revolutionised from a feudal backwater, largely unaffected by the rest of the world, into a rapidly changing and developing country, albeit heavily dependent on foreign aid—estimated at $400 million in 1988 (Grant, 1991).

Cultural

Nepal is a Hindu kingdom and 90% of the population are Hindu, with the remainder being a mixture of Buddhist, Muslim and Christian. The Hindu caste system is prevalent and the population originates from diverse ethnic backgrounds.

Nepali is the national language and is understood by most of the population, but it is estimated by Pant (1991) that there are as many as 75 different dialects spoken by various ethnic groups in Nepal. Some of these tribal languages have no written script and are the only languages spoken by women in many remote areas. This leads to extreme difficulties for health personnel when trying to help people to understand disease prevention and health promotion when they do not share a common language.

Epidemiological

Three main types of illnesses are predominant in Nepal—intestinal disorders, tuberculosis and leprosy (Stapleton, 1989; Pearson, 1988). This is in sharp contrast to the medical

problems of western society where malignant, cardio-vascular and degenerative diseases predominate.

Intestinal disorders, particularly amoebic dysentery, are very widespread in Nepal and can largely be attributed to the lack of sanitation or clean water. Nath (1983) points out that waterborne disease takes a heavy and recurring toll. Whilst there is a plentiful supply of water in Nepal, facilities for safe drinking water and excreta disposal remain woefully inadequate. In a poor country with severe economic problems, investment in improved sanitation has not been high on the agenda. Although it is widely accepted amongst health care professionals that diarrhoea-related deaths can be prevented by the early and adequate replacement of fluid using oral rehydration therapy, health workers need to understand local attitudes, perceptions and practices regarding diarrhoea before any change can be satisfactorily brought about Stapleton (1989).

Tuberculosis and leprosy are both endemic throughout Nepal. Both conditions are curable with multi-drug therapy, but they require many months of treatment and the problems of social stigma and actually obtaining the medication remain. A National Leprosy Control Programme was established in Nepal in 1975, which involved case-finding surveys and the provision of treatment in government health posts. Pearson (1988) points out that the distance some patients had to travel for treatment, far from being a deterrent actually afforded a welcome anonymity for sufferers to disguise their diagnosis and avoid the possibility of social ostracism. However, gender differences in the uptake of this treatment suggest that women's mobility was restricted due to family commitments.

Recent surveys have revealed that in spite of the length of treatment and the geographical problems involved in obtaining multi-drug therapy for leprosy, the majority of patients comply with their treatment and there are few relapses. Brakel *et al.* (1989) carried out a retrospective study of 927 patients and found that only 22 had relapsed four years after treatment. Trier and Soldenhoff (1991) found that only 16% of their patients did not comply fully with their treatment.

Health care in Nepal

The foregoing has set the scene within which health care in Nepal is being delivered. The main problem facing health care planners is how to prioritise care in inaccessible areas where extreme poverty exists. The issue of prioritising care is not peculiar to Nepal, but exists in all parts of the world. In Britain, as Ham (1992) points out, increasing demands on health services, coupled with limited resources, have created the need to make choices about which services should be developed and which held back. The United States has taken this issue a step further in the "Oregon experiment" where an attempt has been made to put medical services in some sort of objective order of priority and then decide a "cut off" point (Klein, 1991).

The problem in Nepal has been to decide whether to use such resources as are available to help cure the ill health that exists or to take a more long-term view and try to prevent the occurrence of these illnesses. Along with many developing nations, Nepal has chosen to embrace Primary Health Care (PHC) as the basis for its organisation of health care. PHC is described by the World Health Organisation (WHO, 1990), as the first level of contact that the population has with a nation's health system, as it brings health care as close as possible to where the people live and work. Some of the main elements of PHC are

health education, proper nutrition, adequate safe water, family planning and immunisation against the major infectious diseases.

The WHO views this approach as more equitable for the population than a health service that is mainly curative, urban and hospital based. This argument could be applied particularly to a country like Nepal in which 91% of the population live in isolated rural areas. However, Stone (1986) argues that not all Nepalese villagers would agree with this approach and that important socio-cultural factors are being overlooked.

PHC, according to Stone (1986), fails to appreciate villagers' values and their own perceived needs. Whilst PHC is organised mainly to provide health promotion, many villagers value modern curative services and feel little need for new health knowledge. Although the ideals underpinning PHC are beyond reproach, many difficulties are likely to be encountered when trying to persuade poor people in rural areas of Nepal of the long-term benefits of health promotion when their main concerns are about the illnesses that they are suffering from now. Dickinson (1987) states that the Nepalese public generally believes that a better service is available in a hospital than a health post and many patients walk long distances to present themselves at an urban hospital.

Stone (1986) also criticises the way in which some aspects of health promotion have apparently been adopted in Nepal without considering local practice. A campaign to encourage breast feeding has been introduced, because in many third world countries reconstituted milk feeds have been mixed with impure water and babies have died as a result. In many rural areas of Nepal mothers always breast feed their babies and so this campaign, whilst not harmful, is irrelevant and the money could have been better used in other areas.

Many established indigenous forms of health care are already available in Nepal and these can compete with modern health methods. Subedi (1989) argues that the presence of medical pluralism can delay the use of modern health services and this needs to be borne in mind when planning health care.

Primary Health Care

Having looked at some of the problems involved in organising health care in Nepal and some of the limitations of a PHC approach, the rationale underpinning PHC is now examined.

PHC was launched by the WHO in 1978, following a joint WHO/UNICEF conference at Alma Ata (WHO, 1978). Since then, PHC has been seen as the key to attaining the goal of "health for all by the year 2000". The main thrust of this global strategy has been to reach the whole population of the world by measures which include health promotion, disease prevention, diagnosis, therapy and rehabilitation. The aim of WHO is the attainment of the highest possible level of health by all peoples and their current target is that by the year 2000 all the people in the world should attain a level of health that will permit them to lead a socially and economically productive life (WHO, 1990).

In order to make this strategy a reality in Nepal, PHC for the rural population needs to be designed in ways congruent with custom. The easy access to health care advocated by the WHO is very difficult to put into practice in mountainous areas, and health education classes often need to be taken to very isolated areas where the women are working, rather than expecting the rural poor to do the travelling. In spite of the economic and geographical problems encountered, some successes have been reported in the literature. Pandey *et al.*

(1991) describe a three-year programme aimed at reducing the under-five mortality from pneumonia in an area of Nepal that is largely lacking in basic health services. The roadless, mountainous area of Jumla is described as being one of the poorest and least served areas in the country, with a *per capita* income of less than $75 per year and a female literacy rate of only 5% in 1989.

In this programme, villagers with some literacy skills were selected and given a nine day training on detecting the signs of pneumonia in children and in educating mothers on illness prevention. After three years, it was shown that in addition to reducing deaths from pneumonia, there was also a significant reduction in the number of deaths from diarrhoea and measles. The findings of this programme indicate that low-literate villagers without previous health knowledge can be trained to detect and treat early cases of pneumonia effectively without the need to refer to other health services, and this intervention alone can lead to a significant reduction in mortality.

It is estimated by Willard (1990) that two-thirds of the blindness in Nepal can be either prevented or remedied. A study carried out by Pant (1991), in an area of Nepal where vitamin A deficiency and nutritional blindness are prevalent, reports encouraging results in reducing the incidence of these conditions. The study describes a Vitamin A Child Survival Project in which community health volunteers were trained by health post personnel to administer a PHC package which incorporated the distribution of vitamin A capsules to children aged between six months and 10 years. The package also included treatment for worms, diarrhoea, respiratory infections and the promotion of immunisation. The volunteers invited mothers to attend meetings within their villages, but when they discovered that maternal literacy was often as low as 6%, a female adult literacy programme was incorporated with encouraging results. Similar positive results have been reported by Daulaire *et al.* (1992), who claim that during a five month period, one death was averted for every 55 vitamin A capsules administered.

Nurse education in Nepal

Nurse education began in Nepal in 1956, and great strides forward have been made over the past 37 years. The fact that the nursing profession is so new explains why the nurse:population ratio changed so dramatically from 1:88,000 in 1964, to 1:4680 in 1989 (World Bank, 1991).

Certificate level training in Nepal lasts for three years and is provided by the Institute of Medicine of the Tribhuvan University in Kathmandu. This prepares nurses for hospital work, and midwifery is included as part of the course. A lower level two year training for the Assistant Nurse Midwife (ANM) qualification is available. This aims to train young women to work in village health posts and the main emphasis is on mother and child health.

In 1977, a Bachelor of Nursing programme was established for certificated nurses with two years practical experience. This programme aims to equip qualified nurses for senior management and teaching posts in hospitals and schools of nursing and is available only in Kathmandu. As yet there are insufficient Nepalese tutors, and foreign tutors employed by charity and missionary organisations help in the education of Nepalese nurses.

Until recently, the main emphasis for nurses, apart from ANMs, has been on hospital work. However, hospital nurses do not carry out basic nursing duties as we in the U.K. understand them, and Crawford and Robinson (1989) report that patients' relatives are expected to deliver all basic care such as toiletting, hygiene needs and providing meals.

Relatives are often present 24 hours a day and usually sleep on the floor by the side of the patient's bed. Nepalese nurses are trained not only to give medicines, carry out dressings and perform administrative tasks, but also to set up I.V. infusions and carry out suturing, because of the few doctors available.

This emphasis on hospital-based, curative treatment began to change during the 1980s when senior nurse educators realised that despite the effort made in Nepal to improve health care, the majority of the rural population remained without any access to the health care system. Das (1986) reported that nurse education has had very little impact on the infant mortality rate, maternal and child health care and family planning. It was realised that the basic nursing curriculum did not reflect the PHC approach and Das (1986) argued that as nurses are the most important group of health workers who are nearest to the people, a PHC approach should be introduced into nurse education to enable nurses to care for people at all levels.

In 1987 the nursing curriculum was revised to include a PHC approach and nurses became responsible for training village health personnel and traditional birth attendants. In order to improve the overall health of the population, a need was perceived for a differently prepared nurse, whose emphasis was on health promotion and disease prevention, rather than treating illnesses that need not have occurred in the first place.

Although the problems faced by nurses in Nepal are worlds apart from those faced by British nurses, similarities can be seen between both systems of nurse education. Both systems have for several years incorporated two levels of nurse training—a two-year practical training and a three-year more academic course. The second level course in Britain has recently been discontinued and all basic courses are now three years long with a high academic content. Problems with the ANM course in Nepal will be described later and the future of this course could be in question. Both systems have recently placed emphasis on graduate status for senior nurses and there are also similarities in the move towards a PHC approach. With the introduction of Project 2000 training into Britain, the emphasis is now on producing a registered practitioner who is competent to assess, provide, monitor and evaluate care in both institutional and non-institutional settings (UKCC, 1986).

The transition to a PHC approach in Nepalese nurse education has not been without problems. Dissatisfaction concerning both clinical and field experience has been expressed by students and tutors. Anderson *et al.* (1988) describe a survey undertaken since the curriculum was changed to include a PHC approach, with increased community-based learning. This survey examined teachers' and students' perceptions of clinical supervision and concluded that most teachers thought that students were fairly adequately supervised, but the students perspective revealed a rather different point of view, with most expressing the need for more and better supervision.

Tamsang and Anderson (1990) describe attempts by nurse educators to encourage reluctant students not only to participate in PHC activities, but also to change the negative attitudes expressed about working in the remote areas of Nepal. An account is given of the necessity for teachers to provide regular supervision of students in order to guide their work, clarify assignments, solve problems, evaluate their performance and generally to encourage and counsel them. Unfortunately, no mention is made in the literature of what must be an enormous logistical problem for nurse teachers in finding a satisfactory way to supervise their students in remote village placements.

According to Tamsang and Anderson (1990), teachers were able to inspire reluctant students and positive outcomes were noted. Students were able to assist with the basic PHC

training of traditional birth attendants, community health leaders and school teachers. Student nurses also helped to mobilise rural communities to immunise their children, plan their families, seek ante- and post-natal care, build latrines and send their children to school regularly. In addition to these health promotion measures, students were expected to complete assignments, including a community survey, render simple curative treatments and make proper referrals. No mention is made in the literature of the length of time that Nepalese student nurses spend on their community placements.

In contrast to the changes taking place in nurse education in Nepal, doctors are still being trained in curative medicine, and usually prefer to work in a hospital in a major urban area (Reissland and Burghart, 1989).

Who should deliver Primary Health Care

Bichmann *et al.* (1989) state:

> "In primary health care, with the goals of equity, effectiveness and efficiency, it is important to identify the people in greatest need and to make realistic judgements about how changes can be achieved."

There are differences of opinion in the literature as to who should deliver PHC. It is clear that nurse leaders consider that PHC should be delivered by nurses and they are now training students with this in mind. Other articles, however, suggest that nurses may not be the most appropriate people to improve the health of the rural Nepalese.

Justice (1983) argues that health services are most effective when they are tailored to meet the needs of each particular population. A study of the decision-making process involved in planning the rural health care programme in Nepal concluded that a consideration of social and cultural factors is fundamental to adequate health planning. Health care planners, Justice maintains, are either unaware of these facts or fail to utilise them, and she criticises the fact that vast amounts of time and money are being spent on training personnel for village health work when such a person already exists.

This worker, called a peon, is described as being the lowest ranking worker in the health bureaucracy. Most peons are from local farming families and have little or no education, thus making them ineligible for any government job above the menial level. Nevertheless, it was discovered that in many health posts in Nepal, it was the peon who actually delivered most of the care and carried out such tasks as dispensing medicines, dressing wounds and giving injections (Justice, 1983). Peons are accepted by the rural population because they are actually from the community, speak the local dialect and there is no status differential between them and the population that they serve. Therefore if peons suggest health promotion measures, the public are more likely to respond (Rifkin *et al.*, 1988). Unlike peons, other health workers are usually educated people from the city, with more sophisticated ways, who are unfamiliar with rural conditions and local dialects.

In a further study, Justice (1984) states that some of the consequences of ignoring social and cultural factors when planning PHC services and health promotion in Nepal can be seen in the ANM programme. This training is designed to prepare nurse-midwives to provide maternal and child health services to the rural population. Because rural women do not usually meet the minimum educational requirements to undertake the training, most ANMs have been recruited from the urban areas. The rural health posts to which these nurses are assigned are located in isolated areas, which makes the nurses particularly

vulnerable to local criticism, as it is against all socio-cultural traditions for unmarried women to live on their own, or with male staff in a health post. Many ANMs are not accepted by the villagers who regard them as alien and socially superior. Women in childbirth usually prefer to turn to the women that they know and trust—the traditional birth attendant, who is generally a caring person, but does not have the knowledge that would enhance practice (Presern, 1992). The prevailing social and cultural conditions therefore make the ANM programme rather inappropriate. An acceptable alternative would be to recruit older, married women from the areas in which they would ultimately work, and train them for this important task.

If the service provided by the present ANMs is not culturally acceptable to the rural Nepalese population, it cannot be regarded as either effective or efficient. However, the training of local village women to provide maternal and child health services raises the enormous problem that the vast majority of them are illiterate.

This brings the discussion on who should deliver PHC to a much more fundamental level. Perhaps planners, in an effort to bring about a more equitable distribution of health care to the rural areas of Nepal are missing one of the most basic problem areas—that of adult female illiteracy. A doctor reporting for the *Observer* newspaper, after a fact-finding visit to Nepal, states that it is the women in village communities who make all the real health decisions. A positive correlation between high female literacy and declining fertility rates, declining infant mortality and improved nutrition, is therefore a real possibility. He states that the rationale behind the work at present being carried out by the INF is that many of the determinants of health in Nepal are not medical at all, the priorities of the work carried out by the mission are therefore women's literacy, an improved water supply and improved nutrition, in that order (Collee, 1991).

With piped water only available to a minority of the population, and malnutrition widespread, environmental conditions are the leading causes of poor health, disability and disease (Kanno and Dixit, 1989). It could be argued therefore, that female education coupled with basic public health measures are likely to result in better health for the population of Nepal than are improved nursing and medical facilities.

Conclusion

This paper has looked at how health care is being organised in Nepal. A study of the literature has highlighted the fact that Nepal has embraced the WHO concept of PHC in an attempt to close the gap between urban and rural health care, and improve the lot of the vast majority of the population who live in isolated rural areas.

Although studies have been described which show encouraging results using this approach, it has been argued that some villagers would prefer health workers to bring curative services rather than the message of health promotion and the prevention of ill health.

An examination of nurse education has revealed a recent curriculum change which has moved the emphasis away from hospital based work to a PHC approach, with students working in community placements in isolated villages. The practical problems of this approach have been highlighted, as have the social and cultural difficulties.

One of the main lessons to be learnt from this study is the importance of considering the social and cultural values of the population for whom the service is intended. Young, unmarried nurses from urban areas are not socially acceptable to rural communities and

are sometimes considered as culturally alien. The overwhelming problem of adult female illiteracy in rural areas has been identified as the main reason why local village women have not been recruited to train as health workers.

The idea of PHC can be seen as an attractive model for Nepal, but with only six years to go before the WHO targets of "health for all", health care is as yet far from being available and accessible to the whole population of Nepal. The implementation of health care is made extremely difficult by the mountainous terrain and the lack of motorable roads or air services to many parts of the country. These difficulties are compounded by the cultural differences between the urban and rural populations and the extremely high level of illiteracy within the villages.

This paper does not presume to supply the answers to these problems, but after studying the available literature, it is argued that several measures are urgently needed before it can be hoped to attain the goal of "health for all by the year 2000". Treatment for such curable conditions as leprosy and tuberculosis need to be extended into the more isolated areas. The provision of a safe water supply throughout the country and improved food production methods would greatly help to reduce the present high level of morbidity and mortality.

The PHC approach, which has already been adopted, may well hold the key to improving the health of the people of Nepal, but it has been questioned whether or not educated, single, urban nurses are the most appropriate people to deliver the long-term message of health promotion to rural areas. This message would be better received from village women from the same cultural background. However, before this can take place in Nepal, the most urgent need is for a massive adult female literacy campaign to take place. It is concluded that this one measure has the potential for an enormous improvement in the health of the people of Nepal.

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