

Use of health services in Hill villages in Central Nepal*



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Abstract

This paper reports the use and non-use of health care facilities in the Hill villages in central Nepal. The health behaviour model (HBM) is applied to test the significance of socio-economic variables on the use of the modern health care system. The study finds that all three characteristics of the HBM model, predisposing, enabling and need, are significantly related to use and non-use of the modern health care system. The analysis shows that number of living children, respondent's education, nearness to the road and service centre, value of land, knowledge about health workers and experience of child loss are some of the variables that are positively and significantly related to the use of modern health care. Age of the respondents and household size were found to be negatively associated with health-care use. Contrary to expectation, caste is unimportant. Making use of the qualitative data, this paper argues that the health care system is unnecessarily bureaucratic and patriarchal, which favours the socio-economically well-off.

Developments in modern medicine and expansion of modern health care facilities have played a very important role in reducing morbidity and mortality in the developing world. Despite a steady penetration of modern health care services, economic underdevelopment has also led to a relatively weak health infrastructure in Nepal. This paper documents the use of health services in some neighbourhoods in the central Nepali Hills. Findings of the study are supplemented by observations and case studies and provide a glimpse of the quality of services available to the majority of the population in rural Nepal.

Nepal is one of the poorest countries in the world. Its per capita income is estimated at \$180 in 1993. The recent census shows an increase in the overall literacy rate from 25 per cent in 1981 to 40 per cent in 1991; but female literacy is only 25 per cent. More than 90 per cent of Nepal's population lives in rural areas and is dependent on subsistence agriculture (Central Bureau of Statistics 1987, 1993). More than 83 per cent of the geographical area is rugged terrain and mountains where more than half of the 19 million population live. Health status is uniformly poor in Nepal (UNICEF 1987; World Bank 1989). Health care facilities in the past were provided by the traditional faith healers (*dhami, jhakris*), and traditional birth attendants. Faith healing is one of the most significant health care systems in Nepal (Achard 1983; Streefland 1985); however,

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there has been a steady penetration of modern health care even though services are few and scattered. There is one hospital for 168,000, one doctor for 92,000 and only one hospital bed available for nearly 4,000 population. The health post, which is the main instrument of the health care system in Nepal, is available to an estimated population of 24,000. Infant mortality is estimated at around 107 per thousand births while under-five mortality is estimated at around 197 per thousand. Maternal mortality accounts for 8.5 deaths per thousand population. Nepal is also one of the countries where life expectancy for women, estimated at 52 years, is lower than for males.

Government policy emphasizes delivery of preventive health care in an integrated manner. The integrated services include family planning and maternal and child health, expanded immunization, safe motherhood, treatment of diarrhoea and acute respiratory infection, and control and prevention of communicable disease. Health posts and sub-health posts are the main providers of these services in rural areas. The government has adopted a policy of reducing infant mortality to 50 per thousand while the target for child mortality is to reduce it to 70 per thousand by the year 2000. During the same period, maternal mortality will be brought down to 4 per thousand. The target for life expectancy is 65 years by the year 2000 (National Planning Commission, 1991).

The Ministry of Health is responsible for providing integrated health services in Nepal. Although the organization of the health care system is constantly changing, it is made up of a hierarchy of institutions which have been developed regionally and locally to suit the concept of decentralized planning. Each regional headquarters has a regional hospital, and this, in principle, is the case with the district headquarters. The district hospitals serve as referral centres for problems that cannot be handled at the lowest level, the health posts. Problems that the district hospitals cannot handle are referred to the regional and the central hospital. Health posts are the lowest level of government service delivery for primary health care; they combine both the health and family planning services. However, because of poor transport and inadequate services at the local health posts, hospitals also serve as the source of primary contact for many people. With this background of the national figures, the concern of this paper is how the health services are organized, and who benefits from the services in rural areas in Nepal.

Data and methodology

Data for this paper are taken from the Benighat Survey, 1988 (Niraula 1990, 1992). The study area is located in a Hill district of central Nepal about 75 kilometres southwest of Kathmandu. Data were collected in eight main settlement clusters. However, within these main settlement clusters, there are many more sub-settlement areas often delineated by caste and ethnicity, by stream and slope of the hill or by a trail. The survey was conducted over a period of five months (August 1988 to January 1989) using micro-demographic research methodology which has components of both survey research and anthropological research (Caldwell and Hill, 1988; Axinn, Fricke and Thornton 1991). Factual and attitudinal data on marriage, fertility, health and family planning, and the value of children were collected using a structured questionnaire. Other instruments included in-depth case studies, observation, group discussion and discourse with key informants. Socio-economic background information collected included education of the women and her husband, household head, landownership, settlement area and caste-ethnicity. A total of 625 households were covered which yielded 719 women aged 15-54 years.

This study can be compared and contrasted with that of Fricke, Thornton and Dahal (1991). Unlike that study, which was of a single ethnic group in an area much closer to Kathmandu city, my study was of a multi-ethnic area far from the capital city. However, both the areas have identical exposure to monetization and modernization. While Fricke et al.'s study is illuminating on the changes encompassing a single ethnic group, this study highlights the forces of change in a much wider social context.

Development and expansion of health care facilities has been an integral part of government policy to improve the health status of the Nepali population. However, experience shows that not all people are equally attracted to the modern health care system or have the incentive and knowledge to use it. Models on use of health services vary (Rosenstock 1966; Andersen 1968; Rogers and Shoemaker 1971): the health behaviour models emphasize the perception of vulnerability to an illness and the efficacy of the treatment which will influence health-seeking behaviour. The health behavioural model proposed by Andersen (1968), and subsequent modifications and applications of the model¹, are used here as a conceptual guide. The model is based on three sets of characteristics: predisposing, enabling and need. The predisposing characteristics include the demographic (age, sex, number of children), and the social (education, caste-ethnicity): younger adults, males and the educated are more likely to use a modern health care facility while the presence of a large family is likely to reduce use of the services because of the increased cost. The enabling factors are those which may promote the use of the health-care facility: they include economic status of the household, and knowledge of and access to modern health care. The third set of characteristics include perception of the severity of an illness, and are therefore a stimulus to use of health care: child loss experienced by women represents the 'need' characteristics in this paper.

The paper contains both descriptive and analytical findings: the descriptive findings are based on bivariate analysis, the analytical findings on multivariate analysis. On the basis of the descriptive findings, logistic regression is carried out and results are interpreted in light of the odds ratios.

The context

As in most of Nepal, traditional life in the Benighat area is being affected by a series of development programs. In the early 1970s, a major road construction project supported by the Chinese government was begun, linking the settlement area with Kathmandu, the capital city, and Pokhara, a tourist spot and urban centre; the highway also linked the study area with southern Nepal and India. The construction of the highway was a major event in the development of the study area and it affected the village community in numerous ways. Many people got jobs as rural construction workers and were paid in cash. Development efforts by the government encouraged irrigation facilities and provided incentives for cash crops, mainly vegetables and other horticultural crops; livestock raising was also encouraged. Surplus horticultural and livestock products gained an easy access to the major urban areas. Marketing of the surplus products, and cash wage-earning, monetized the village economy and integrated it with the national economy. Almost half of the population has access to some form of piped water, but this is inadequate and is mostly concentrated in settlement clusters along the highway: water-borne

¹ See Aday and Andersen 1974; Wilinsky 1978; Soldo 1985, Subedi 1989; Fosu 1989

diseases are rampant in the population. Schooling of children is increasingly looked upon as a means of enhancing status and increasing opportunities for employment outside agriculture. School enrolment for both boys and girls is increasing, at a somewhat lower rate for girls.

In the early 1970s, the Benighat area also benefited from the establishment of a modern health post in Benighat. This health post is now an 'area health post' catering to the needs of about eleven village development committees (VDC, the lowest political unit) including Benighat. With the establishment of the health post in the VDC, a couple of retail medicine shops have sprung up in the area. The retailers not only supply medicines but also give advice on their use for primary illness. In addition, there are shopkeepers who sell medicines with their general provisions; even antibiotics are widely available in those stores and can be obtained without prescription. The health post, which is at the VDC headquarters in Benighat, is about three hours' walk from the farthest settlement covered in this study. Settlement areas which are along the highway and are within half-an-hour of the health post are categorized as settlement cluster-I, and settlements that are far off the highway are categorized as settlement cluster-II. With the opening of the highway, people also have access to major hospital care in urban areas like Kathmandu, Pokhara, and Narayanghat.

Like most of rural Nepal, the surveyed area is predominantly agricultural. As in other agricultural societies, land is the only source of employment and income for most of the households. The ever-increasing population in the area has put great strain on the land available for cultivation. Agriculture is integrated with the rearing of livestock, which provide labour for cultivation, and are important for replenishing soil fertility and supplementing family income. A significant number of households further supplement their income through wage earning and retail trade.

Descriptive findings

Characteristics of the respondents

Patterns of settlement, historical developments and caste-ethnic mix are important characteristics of the socio-economic structure of Nepali society. The study area is a microcosm of Hill settlement in Nepal: major caste-ethnic groups are represented in the study population. Topography is an important source of variation in socio-economic life. Settlement patterns, caste-ethnic mix and access to land and other services vary according to altitude. Diversity in ecology and elevation has always been a factor for caste-ethnic diversity and associated modes of life throughout the history of modern Nepal. About 80 per cent of the Benighat population belong to the Hindu caste system while the remainder belong to various hill tribes and ethnic groups. Among caste Hindus, the higher castes, Brahman and Chhetri, predominate with 63 per cent of the population followed by untouchables, 21 per cent, and residual caste groups, 14 per cent. Among the hill tribes and ethnic groups, the Ghale Gurung are the largest group followed by the Magars².

² Details of caste-ethnic diversity are beyond the scope of this paper. Despite the pursuit of Hinduization by the state, many of the tribal and ethnic populations maintain their unique social and cultural characteristics; for details see Bista (1972, 1982, 1992); Gaige (1975); Macfarlane (1976); Gurung (1989); Bishop (1990). There are several minority groups within the tribal and ethnic population. For the purpose of this study,

Table 1 shows the major socio-economic and demographic characteristics of respondents according to caste-ethnic background. It is clear from the table that the high castes, Brahman and Chhetri, are socially and economically better-off than the lower castes and ethnic groups. For example, the mean years of husbands' schooling for the Brahmans is more than double the mean years of husbands' schooling for the lower-caste Hindus and ethnic groups. Distribution of landholding is skewed. Large plots are owned and operated by high-caste people. The average size of landholding owned was 1 hectare but the size of holdings owned by the Brahman households was 1.4 hectares, which is more than twice the amount of land owned and operated by the ethnic and other lower-caste groups³. Not only do the high castes own more land, they also own the high-quality land which produces better and is thus valued more. The socio-economic superiority of the higher castes in day-to-day life is quite marked in rural areas like Benighat. Therefore, caste in the studied community also represents economic class, though not invariably. In general, the higher castes are better off economically, but even in Benighat, there are Brahmans and Chhetris who are landless or marginal landholders like the ethnic groups and lower castes.

Table 1
Socio-economic characteristics and caste

Caste-ethnicity	Years of schooling		Land(ha.)	Household size	Number
	Respondent	Husband			
Hindu Castes					
Brahman	0.6	3.8	1.6	7.5	232
Chhetri	0.3	2.7	1.1	6.4	117
Untouchables	0.3	1.7	0.9	6.8	125
Other castes	0.1	0.9	0.6	6.4	79
Tribal and ethnic groups	0.2	1.4	0.6	6.5	146

Health beliefs and use of health care facilities

Treatment-seeking behaviour is largely determined by types of illness and popular beliefs regarding them. The cultural diversity brought about by caste and ethnic mix and topographical variations extends to health-seeking behaviour. Some of the health beliefs may be common to all caste-ethnic groups but some are more specific to a particular caste and ethnicity. However, because of the long acculturation of ethnic and tribal groups with the dominant caste groups in Benighat area, we did not find significant differences in health care beliefs. In most cases, illness is thought to be both physical and spiritual. For illness deriving from relations with the

ethnic and tribal groups are treated as separate categories from caste Hindus because of their distinct cultural background.

³ However, the economic inequality evident in ownership of land per household is somewhat reduced if we consider household size. Higher-caste Brahmans tend to have a larger family size which reduces the per capita availability of land. This is in conformity with results reported elsewhere for Nepal as a whole. The World Bank (1991) found that households with larger landholdings also have larger family sizes.

supernatural, modern medicine is considered ineffective (Stone 1976; Molnar 1981)⁴. For villagers in the Benighat area, the concept of illness is associated with a wide range of causation from food to witchcraft, spirits and supernatural events. For example, it is fairly common in all caste-ethnic groups to put a black mark (*tika*) on a baby's forehead to safeguard it from the 'evil eye'. Similarly, mothers tie black threads on children's ankles and wrists to protect them from malignant spirits. Coughing is often associated with intake of 'cold' food and lack of proper clothing (*chiso lagnu*): the patient will be barred from taking 'cold' food such as yoghurt, green vegetables, cold water and fish. Local wisdom is that a sick person suffering from cold should be given hot soup made with spices (ginger, turmeric, basil), and should avoid sour, hot and oily food. Lack of appetite in children is usually associated with witchcraft and 'evil eye' (*chokha lagnu*). Pregnant women are treated as sick (*bhari jiwaki*). In higher-caste Brahman households, a woman may be barred from worship and cooking responsibilities after six months of pregnancy. Among the higher castes, a menstruating woman is 'untouchable' (*chhuna nahune*) for four days; among the lower castes and other ethnic groups, the restrictions are less severe. While there are few food restrictions during the pregnancy, there are many more food taboos after the birth of the baby. Women are given 'hot' food (*garam*) after the birth of the baby: *garam* food consists of meat, ghee, rice and soup made from different herbs and spices. A woman after childbirth is considered vulnerable to various sicknesses: she is kept in a dark closet to protect her from cold. As a result of several food taboos and poverty, the majority of rural women suffer from anaemia. There are food taboos associated with all types of illness: a child suffering from diarrhoea may be barred from taking water and liquid food. The villagers argued that intake of liquid would make the diarrhoea worse.

In rural Nepal, and in Benighat, women are the primary care-givers; siblings are also important carers for their younger siblings. In a joint household, the grandmother is the one who looks after the young children; usually, it is she who first identifies the illness of a child. Most often, treatment for illness is sought only after home remedies have failed. Experienced women administer their own home medication to the sick; others may take the sick child to a nearby traditional healer for treatment. Mothers are informed of the sickness of the child when they return home, after the evening meal, a time to chat about the day's events. The village source of drinking water is an important place where women seek advice on treatment for their sick children: usually the mother describes the characteristics of the sick child and seeks advice from experienced mothers.

Going to a faith healer is a ritual for seeking treatment, but if the illness persists even after two or three visits to a healer, the people of Benighat seek modern medicine. Many of them also use self-medication, with medication bought at the medicine shop. Others try herbal medications they have tried before. However, treatment-seeking behaviour is changing with the availability of the modern health care facility in the area.

Despite the presence of the health post in the area for about two decades, about 42 per cent of the people do not visit it but go to a traditional healer. Table 2 shows the use of health-care facilities by the socio-economic characteristics of the respondents. Use of modern health care is directly related to socio-economic status: in general the higher castes and educated people are more likely to seek modern treatment than any other socio-economic groups.

⁴ Several studies of an anthropological nature deal with concepts of illness and cure in different communities in Nepal (Hofer 1973; Bennett 1974, Stone 1976, Blustein 1976; Molnar 1981; Paneru 1980).

Women who had attended school for a few years used modern medical facilities more than illiterate women; similarly, those whose husbands had been to school show significantly higher rates of health care use. Distance to the health care facility is another factor in seeking medical treatment. People who are close to the roads where the health post is located (settlement cluster I) were found to seek modern treatment more than people who are far away (settlement cluster II). From settlement cluster II, only severe cases were brought to the health post, often too late to treat. The age pattern of health-care use shows a peak in the middle age (25-34). Women at both age extremes use modern health care less, but for different reasons according to the age group. Younger women are more restricted in household decisions: lack of autonomy hinders them in seeking modern health care. Moreover, younger women also have fewer children and less need of the health care services. Women who are aged 35 years and above are traditional and want to keep to traditional modes of treatment, from local healers; they also tend to distrust modern medicine.

Of those who did not use modern health-care services (N=299), about 71 per cent of respondents gave reasons: the distance to the health post was cited by about 29 per cent as the main deterrent, followed by bad treatment at the health post (22%) and high cost of treatment (21%). The remainder of the respondents (29%) said that there was no need for them to use the health care facility.

'No need' for seeking treatment was highest for the Brahman caste (42%), while long distance to the health post was the main reason for not using the health-care services (41%) by the ethnic groups. The non-use of health-care services was higher for those who had not attended school than those who had, and it increased with age of the respondent. About 43 per cent of the women in settlement cluster I reported that they never had a 'need' to attend to the health post, and 35 per cent in settlement cluster II said the health post was 'too far' for them to seek treatment. One lower-caste respondent in settlement cluster II explained why there was less use of the health post:

...there is differential treatment in the health centre. If someone higher-caste and influential goes for treatment, he or she not only receives most of the time of the health post staff, but also receives free medicine. As for us, the poor, they direct us to buy from the shop.When a family planning or health worker comes to the village, he never comes directly to us. He or she finds difficulty even to speak to us.

There is a possible link between socio-economic status and use or non-use of the health care system. Because Brahmans are socio-economically better-off, they are probably more healthy and need less health care; and when they do need it, they are able to pay the associated cost of using the services. The lower caste and ethnic groups are poorer and less likely to be healthy: their reasons for non-use varied from 'too far' to 'expensive treatment' and 'bad treatment'.

Table 1 shows that caste-ethnicity and other socio-economic measures are related; Tables 2 and 3 show that use or non-use of the health services is closely related to socio-economic status including caste-ethnicity, education and proximity to health care centre. This means that caste on the one hand and other socio-economic measures on the other are interrelated. For example, the service castes and ethnic groups not only have lower status in the caste hierarchy, they also have less education, a measure of social status, and own less land, a measure of economic status. Similarly, people who are closer to the health post (settlement I), are more likely to use the

health post. To determine the strength of each socio-economic variable included in the health behaviour model on the use of health services, I use the multivariate regression analysis.

Table 2:**Use of modern health facilities according to Socio-economic status**

Socio-economic status	Use of health facility		
	Yes	No	N
Caste-ethnicity			
Hindu Castes			
Brahman	70.3	29.7	232
Chhetri	63.5	36.5	137
Untouchables	43.2	56.8	125
Other Hindu castes	54.8	38.0	79
Tribal and ethnic groups	47.5	52.5	146
		$(\chi^2$ significant at <0.001)	
Respondent's schooling (years)			
No schooling	56.1	43.9	643
1-3 years	74.5	25.5	51
4 and above	84.0	16.0	25
		$(\chi^2$ significant at <0.01)	
Husband's schooling			
No schooling	49.4	50.6	310
1-3 years	62.4	37.6	218
4 years and above	68.6	31.4	191
		$(\chi^2$ significant at <0.01)	
Settlement cluster			
Near highway	75.7	24.2	350
Off highway	42.2	58.0	369
		$(\chi^2$ significant at <0.01)	
Age group of respondents			
15-24	51.1	48.9	176
25-34	63.0	37.0	254
35 +	58.8	41.2	289
		$(\chi^2$ significant at <0.05)	
Total	58.4	41.6	719

Regression results

The dichotomous use of the modern health care system and various socio-economic characteristics is further analysed using logistic regression. The dependent variable is coded 1 if the respondent has used the modern health care service and 0 if she has not used it at all. Results are discussed by looking at the odds ratio which is the exponent of the coefficient of the regression estimates and takes a value between zero and infinite. Results are compared to the

reference group which always has an odds ratio of one. An odds ratio greater than the reference category implies a higher probability while an odds ratio less than the reference group implies a lower probability than that of the reference category.

Table 3
Reasons for non-use of modern health facility

	Far away	Bad treatment	Expensive	No need	N
Caste-ethnicity					
Hindu Castes					
Brahman	27.0	14.9	16.2	41.9	69
Chhetri	31.3	22.9	18.8	27.1	50
Untouchables	23.7	27.1	22.0	27.1	56
Other Hindu	18.2	23.6	23.6	34.5	36
Tribal and ethnic groups	40.8	23.9	22.5	12.7	87
Respondent's schooling					
Illiterate	28.9	23.0	21.3	26.8	282
Up to 3 years	26.7	13.3	6.7	53.3	13
3 years +	20.0	—	20.0	60.0	4
Settlement clusters					
Near highway	21.3	18.8	17.5	42.5	85
Off highway	31.3	23.3	21.6	23.8	214
Age of women					
15-24	22.2	14.4	18.9	44.4	86
25-34	27.6	26.5	21.4	24.5	94
35+	34.5	24.4	21.0	20.2	114
Land ownership					
Landless	23.7	18.2	9.1	45.5	12
Up to 0.5 ha	32.3	25.3	21.2	21.2	98
0.5 to 1 ha	29.9	20.7	26.4	23.0	84
1 to 1.5 ha	21.6	23.5	17.6	37.3	47
1.5 ha.+	27.1	18.6	15.3	39.0	58
Total	28.7	22.1	20.5	28.7	100
(N)	(86)	(66)	(61)	(86)	(299)

The relationship of all the three demographic variables to use of modern health care is in the expected direction. Respondents' age and size of the family show a negative relationship. An increase of one year in a woman's age reduces the probability of her using modern health care; the number of living children in the family increases the probability of using it. The odds of using

the health care system for women with living children is 1.23 times higher than for women without living children. The second block of variables is related to social structure: respondents' education, husbands' education and caste-ethnicity are in this category. Of the social-structural variables, only women's schooling is statistically and positively related to the use of modern health care. Women who had been to school were more likely to use modern health care by an odds of 1.84 than those who had not. However, husbands' schooling was not significant. Contrary to our expectation, caste-ethnicity is not statistically significant even though the lower caste and ethnic groups tended to have lower odds of using the modern health care system than the higher castes, Brahman and Chhetri.

Separate models were run to test the significance of caste-ethnicity on health care use (results not shown here). We modelled for all the caste and ethnic groups in the study including the relationship between high castes and low castes, Hindu castes and tribal ethnic groups, lower untouchable castes and tribal ethnic groups. Only among caste Hindus does caste have an effect on use of health services at a 10 per cent level of significance. In all other models, caste is not statistically significant in use of modern health care.

Settlement cluster, knowledge of health worker and value of land are the 'enabling' characteristics in the model. All enabling characteristics were found to be positively and statistically significant. Women who knew a health worker were 3.75 times as likely to use the health facility as those who did not know a health worker. Similarly, women who lived in settlement cluster I, where the health post was located, were 3.5 times as likely to use the modern health facility as women who lived far from the road in settlement cluster II. Value of land, a measure of both economic and social status, was also positively related and was statistically significant. Women whose households owned higher-valued land had higher odds of using modern health care than the landless poor and households that owned less-valued land. Finally, the 'need' characteristic in the model is represented by women's experience of child death. This variable is positively and statistically significant. The odds of using a health care facility are higher for women who have lost their children than for those who have not had such an experience.

As noted earlier, a set of variables from the same family of characteristics represents a block. Entering one block of variables at a time and adding it to another block makes it possible to examine the changes to the explained variances of the dependent variables⁵. An examination of the pseudo- R^2 increments reveals the strength of the variables in each block of the health behaviour model (HBM). Of the three blocks of variables, the major predictors are the enabling variables which account for the largest increment in R^2 , followed by the predisposing and need variables. The predisposing characteristics together explain about six per cent of variations in the use of modern health care services in Benighat area. The need variables in the model are somewhat weak because there is only one indicator; but the finding that the enabling factors are more important than any other factors in this model is consistent with expectation. In rural areas like Benighat, the use of health care services is determined by factors such as proximity to the health care centre and value of land, which is an indicator of economic status.

⁵ Analogous to R^2 in ordinary least squares regression, one can also look at pseudo- R^2 to examine the effect of each block of independent variables.

Table 4
Logistic regression estimates of the influence of socio-economic characteristics on use of modern health care services

Characteristics	Odds Ratio	t	P> t	Mean	Std
Predisposing					
Demographic					
Living children	1.28	4.52	0.000	3.4	2.3
Age	.96	-3.12	0.002	32.4	9.8
Family Size	.94	-1.73	0.084	6.8	4.1
Social					
Caste ^a	.94	-0.803	0.422	0.48	0.5
Respondent's schooling	1.21	1.99	0.047	0.4	1.2
Husband's schooling	.99	-0.19	0.846	2.4	3.5
Enabling					
Nearness to highway ^b	3.40	6.24	0.000	0.48	0.50
Knowledge of health worker ^c	3.84	5.57	0.000	0.23	0.42
Value of land owned (in Rupees, 43= US\$1)	1.01	2.79	0.005	70499	136676
Need					
Experience of child loss	1.29	2.63	0.009	0.7	1.0

Statistical note: N = 719; $\chi^2_{10} = 177.12$ (significant at 0.0000); Log Likelihood = - 399.59; pseudo R² = 0.1814

^a High castes (Brahman/Chhetri) = 0, Others = 1

^b Near highway, Yes = 1, No = 0

^c Knows health worker, Yes = 1, No = 0

Discussion and summary

In a transitional society where both traditional and modern methods of treatment are used, the choice between them is determined by socio-economic status and belief systems which are themselves in the process of change. Use and non-use of the health care facility is significantly related to demographic variables. Number of living children is positively related to the use of the health care facility, even after sex of children is controlled for. This is an important finding

because it is believed that children of different sexes are treated differently: this is not supported by the study.

In general, the older the woman, the less she will use modern health care, which is consistent with our expectation of older rural women. In rural areas like Benighat, women adhere to traditional values which encourage them to cling to traditional modes of health-seeking behaviour. Older women are also more likely to be prejudiced against the methods used by the health care providers, as is illustrated by the following case.

Devaki aged 40 accompanied her daughter Janaki aged 21 to the health post to seek treatment for Janaki's swollen breast (*thunilo*). The baby was not sucking it properly. Before they had finished explaining what had happened to Janaki, the health worker injected something into her. Both Devaki and Janaki wanted some 'medicine' to reduce the pain from the swollen breast, not an injection. After the injection, Janaki complained of increased pain and fainted. According to Devaki, there was nervousness and chaos among the health workers and they did not really know how to handle the situation. The health worker had to use two or three other 'injections' to bring Janaki back to normal. Devaki said she was scared to death to see her daughter like that. After they went back to their house, the infant did not like the taste of his mother's milk. Devaki complained that the injections given by the health post staff had diluted her daughter's milk which the child could not drink. She accused the health workers of being negligent and arrogant towards her daughter. She noted that she would have been better off had she decided to treat her daughter with the local medicine.

In rural areas, health workers are projected as ruthless, cruel and insensitive to others' sufferings. Mothers and other child care providers threaten their children that they will 'take them to the doctor' if they misbehave. This creates and perpetuates negative stereotypes about modern health care providers among the rural population.

Schooling of women was found to be a significant predictor of the use of health services. Education is associated with knowledge and imitation of Western values, and ability to manipulate circumstances according to need, and meet the cost of rearing children. It is argued that the better educated are more willing than the less educated to adopt innovative behaviour and shun traditional practices (Caldwell 1979). Such change often leads to the motivational and ideational change that is thought to be at the heart of the demographic transition in the contemporary world (Caldwell 1982; Retherford 1985; Cleland and Wilson 1987). The enabling factors are those which are associated with access to the health centre, economic status of the household and knowledge of the health workers. The health post is in Benighat, which is the hub of social and political life. It is also a local bus stand. As noted earlier, because of the opening of the highway, new employment opportunities were created and some women in the study have taken advantage of the opportunities. These women now mingle with passers-by and are exposed to various ways of life that affect and change their own daily life-styles, including health seeking behaviour. The following is what we observed in a tea shop.

One day, while having tea in a tea shop, we heard a small child's cry. The baby was coughing and crying at the same time. The proprietress rushed to pick up the baby

while her husband helped in preparing tea. When the proprietress came she was trying to breastfeed but the baby was not interested. We heard her saying that the baby might have developed fever. People who were there offered different opinions about the nature of the illness and possible treatment. While there was no consensus on the precise nature of the illness, most of them suggested that the lady should not waste time before seeking proper treatment for the baby at the nearby health post.

This type of interaction with outsiders affects people's behaviour. We were relieved to find that the parents decided after discussion to take the baby to the health worker, who treated it for acute respiratory disease. Once a woman uses a health post, she is more likely to use it in future. People who live far from the road do not have this level of interaction with outsiders and are less likely to use modern health care.

Observation and discussion of health-seeking behaviour reveals that promptness in seeking treatment or cure depends on the age and sex of the sick person and the status of the primary carer. While we observed no systematic difference in treatment for sons and daughters (a finding also confirmed in the quantitative analysis), gender differences are more marked in adult treatment: males are more promptly advised to seek treatment than are females. There is strong pressure to seek treatment from all members of the group, particularly from the patient's mother and wife. The treatment of women patients is further affected by the ideology of the patriarchal society: a woman during menstruation is polluting, untouchable. Since none of the health workers are women, a sick woman has considerable problems in seeking treatment during her periods, both at the household level and in the community at large. Usually a service provider is a high-caste, educated, urban male and a patient may be a lower-caste, illiterate, poor and rural female. Such glaring status differences between the service providers and receivers creates communication gaps and shadows the objectivity of the service.

When we asked women why they do not go to the health post, they responded that they have to speak to the 'doctor' whom they do not know and 'he asks too many questions'. In a society where pregnancy and birth and body organs are not subjects for uninhibited public discussion, the presence of an army of male health workers limits the use of such programmatic efforts in carrying out the messages of the program. Because of their upbringing, the health-post staff maintained a good working relationship with the village elite who are not only few but also in a position to make use of health services elsewhere. These findings are not atypical of villages in Benighat area. Several other studies point to similar findings (Schuler et al. 1985; Justice 1986; Schuler and Goldstein 1986).

The differences in seeking modern health care are consistent with the socio-economic status. Contrary to general expectations, traditional medicine still thrives in Benighat area. When Chandra, aged 38, was asked why she did not go to a doctor for treatment of her frequent headaches (*adho*), she responded:

I suffer from *adho* frequently. Whenever I have it, I visit the *dhami dai* (shaman brother). He chants some *mantra* touching my head three times and I feel much better after some time. *Dhami dai* is just across the house and I do not pay him anything for his services. If I go to the health post, it takes time and money. Where on earth am I

going to get that much money for my illness? I get satisfaction from the services from him.

Unlike the urban high-caste, educated men who mostly staff the modern health facilities, the traditional health providers are the same sort of people as the villagers. Villagers have social relations with the traditional practitioners. The persistence of the traditional health providers is even facilitated by the advent of modern medicine, with its inadequacy to provide a better cure and its incompatibility to the lifestyle of rural people. People expect treatment at the doorstep; they also expect early treatment and cure from the medicine. But getting service is time-consuming and expensive: often it takes hours to walk to the health care facility, only to either find that the main health provider is away or have to wait a long time. At times there are personality conflicts among the staff. In a couple of instances, the chief of the post did not leave the store room key to his juniors: people who came to the health post on those days received low-quality care, and the whole health post was deprived of essential supplies. The quality of the treatment is poor: there is little communication between the providers and the patient, and the patron-client type of relationship predominates. In most cases, health care providers are arrogant.

The findings have underscored the importance of socio-economic variables for health behaviour. While the present health care system is dismally inadequate, the challenge Nepal faces to provide primary health care for the growing population is quite high. A large majority of people continue to live in poverty and tangible attempts have to be made to empower them. Agricultural production programs that encourage healthy food habits should be linked with programs to increase economic standards. The caste-ethnic composition of the service providers should be a point in considering relocation of health care staff. Education, an important factor that provides exposure to the outside world and promotes use of health care facilities, needs to be expanded. Creating a conducive environment for girls' education would have a positive impact on maternal and child health.

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