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Examining Out-of-Pocket Expenditures on Reproductive and Sexual Health among the Urban Population of Nepal

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Abstract

Poor health is unpredictable and, in circumstances where a significant fraction of the household expenditure is required for purchasing health care, can have disruptive impact on household budgets and an impoverishing effect on living standards. This article provides an account of a recently-completed representative cross-sectional survey on out-of-pocket costs for reproductive and sexual health (RSH) care in urban Nepal. The study, which is the first of its kind, was conducted in nine towns of Nepal covering about 50% of the total urban population of the country. The survey used a two-stage cluster sample design and face-to-face structured interviews were carried out with 1,669 respondents from 992 households. Overall, 1.1% of total annual household expenditure was spent on RSH excluding HIV/AIDS care and 2.9% was directed towards costs associated with HIV/AIDS care. The costs related to emergency obstetric care were the highest; 9% of the total health care expenditure went on the payments for obstetric care alone. The distribution of out-of-pocket expenditure by the major components of RSH care services shows that almost half of all out-of-pocket payments were spent on maternal care (46%), followed by STIs (27%) and RTIs (13%) respectively. Out-of-pocket expenditure on family planning and related care was modest, accounting for about 7% of overall RSH spending. This is attributed to the supply of contraceptives and related services free-of-charge mainly from public facilities. A high share of out-of-pocket expenditure to total health financing is considered as a major concern in any health financing system, and in Nepal this can be seen as a major impediment to achieving poverty reduction and the Millennium Development Goals.

Keywords

Out-of-pocket, expenditure, reproductive health, Nepal

Context

Out-of-pocket payments continue to be the most important means of financing health care in many developing countries (Doorslayer et al. 2006). Health care expenditure is largely unpredictable and instances where a significant fraction of total household expenditure is devoted to purchasing health care can have a disruptive impact on household budgets and ultimately an impoverishing effect on living standards. Because of this, a higher share of out-of-pocket expenditure relative to total health financing in a country is considered as a major concern in any health financing system (CMH 2001; Whithead et al. 2001; Kawabata et al. 2002; Meesen et al. 2003; OECD and WHO 2003; World Bank 2004). Recent evidence from Africa and Asia show that high out-of-pocket expenditure discourages individuals from poor and socially disadvantaged groups from seeking health care (Doorslayer et al. 2006; Xu et al. 2003). This paper aims to analyse the extent of out-of-pocket payments related to reproductive and sexual health care in Nepal, a country which is still caught in a vicious cycle of poverty and poor health.

Nepal is a mountainous small land-locked country bordering with the People's Republic of China in the north and India in the east, south and west. The total area of the country is 147,181 square kilometres with a total population of about 28 millions. The population has more than doubled in the last 35 years, resulting in a population density of 157 people per square kilometre (CBS 2003). The country has diverse cultures, climates, traditions, and languages. There are wide discrepancies in health services in different regions. Life expectancy is one of the lowest in Asia at just 62 years. The literacy rate is 54% overall, which masks an enormous gender gap. The contraceptive prevalence rate is about 44%, with a high level of unmet need.

The 2006 Nepal Demographic Health Survey revealed that 82% of all women give birth at home, and only 18% are attended by a skilled professional at birth. Although the national total fertility rate has dropped from 4.1 children in 1996 to 3.1 in 2006, fertility rates remain high in the mountain region (4.1 children) and among poor people (4.7 children among the lowest quintile) (NDHS 2006). In view of the high proportion of home deliveries, low use of professional care at birth, low utilisation of antenatal care and other socio-economic and cultural barriers to service use as well as the inadequate supply of health services, many Nepali women continue to suffer from pregnancy related complications. Other reproductive health problems are also issues of concern in Nepal; for example HIV/AIDS is emerging as one of the major public health problems. The first case of HIV infection in Nepal was identified in 1988. Within a decade of first detection, Nepal entered into transition from a "low-prevalence" country to one with a "concentrated epidemic" stage with HIV prevalence consistently over five percent in some sub-populations such as injecting drug users (IDUs), sex workers and labour migrants (reference). The existence of other sexually transmitted infections and reproductive tract infections are also of considerable public health concern (CREHPA 2000; MOHP/FHI 2005).

The economy is primarily agrarian, although most households are not self-sufficient and rely on some non-agricultural sources of revenue (Sedden et al. 2003). Per capita GDP is estimated to be less than US\$300; more than 40% of the people live below the poverty line (NPC 2003). Although agricultural output has kept pace with population growth, human welfare has not improved in many areas of Nepal, with the country ranking 136th in the 2005 Human Development Index (UNDP 2005). Development strategies have been hindered, in part, by topography, by marked caste and class distinction and unequal distribution of power and resources, as well as by severe gender discrimination in spheres of public and private life. Particularly in rural areas, where approximately 86% of Nepalese live, women's access to literacy, property, and economic resources are often limited.

As observed in many other developing countries, the Nepal government is also faced with increasing pressure to improve the efficiency and financial viability of health service delivery systems, particularly in the light of renewed commitments to improve living conditions for the poor. This situation is exacerbated by the demands placed by HIV/AIDS on the health system. The health sector reform strategy includes the delivery of Essential Health Care Packages (EHCP) to all, regardless of the ability to pay or health needs beyond EHCP. Other reforming initiatives include the regulation of the private health sector within the context of decentralisation, and public-private/NGO partnerships (WHO 2004). Nevertheless, the problem of financing the health sector is a matter of serious concern to the government due to constraints in the existing resources (WHO 2004).

Estimates of the cost of providing reproductive and sexual health (RSH) care, including care for HIV/AIDS, are important to assist in closing the gap between what is needed and what is available and also to help in setting health priorities for Nepal. Historically, public health expenditures have been very low and have fluctuated over recent planning periods. Public health expenditures were 3.5% of the total government budget in 1991/92 increasing to 6.2% in 1997/98. Since 1998/99 the allocation ranged from 5% in 2000/2001 to 5.4% in 2005/06 (MOH 2004). A recent study on public expenditure in the health sector revealed that although development related expenditures constitute about 60% of the total expenditure, about 50% of these are financed by external sources (BC et al. 2004). This has raised serious doubts about the sustainability of the development budget. In addition, the Government of Nepal spends only 1.5% of the Gross Domestic Product (GDP) on health (UNFPA 2004). On the other hand, little is known on how much people pay for RSH care and for which type of RSH services. These services are key to development efforts because RSH health care represents a large part of the interventions needed to achieve the health related Millennium Development Goals.

A study conducted by Borghi and others (2006) found that the average cost incurred by households for a home delivery was Rs.693 (\$9.2). The average facility-based fee for normal delivery (Rs.678/\$8.9) was not significantly different from the total expenditure incurred by those delivering at home. However, once the cost of transport and additional items are added, the facility costs become much more expensive (Borghi et al. 2006). Another study found that on average an individual in Nepal spent around Rs 505 (\$6.9) per year on health related goods and services standing at 5% of the total per capita household expenditure (Hotchkiss et al. 1998). The study concluded that the share of total health care expenditure increased with the level of household income. In terms of the role of households in the total health economy, it is estimated that out-of-pocket payments account for almost three quarters of the total funds used to finance Nepal's health sector (Hotchkiss et al. 1998; Rous et al. 2003). This figure compares with 50% in the Philippines, 75% in Colombia and India (Berman 1997). Another study conducted in 11 Asian countries revealed that Nepali people are pushed into poverty due to high out-of-pocket expenditure on health care (Doorslayer et al. 2006). The evidence base is better developed for total out-of-pocket costs for health, and there is some evidence for maternal health costs, but there are no previous studies that have assessed out-of-pocket costs for contraceptive use, for other reproductive health infirmities (reproductive tract infections, infertility, and cancer) or for other sexually transmitted infections (STIs) including HIV/AIDS.

This article is an account of a recently-completed representative cross-sectional survey on out-of-pocket costs for RSH care in urban Nepal. The analysis first examines the extent of household out-of-pocket expenditures by specific RSH services such as maternal health, family planning, STIs including HIV/AIDS and other reproductive infirmities among the urban population of Nepal. Second, we assess the total spending on RSH and the financial burden of such expenditures on household budgets. This article aims to contribute to a better understanding of the types of RSH care services that make Nepali people more vulnerable to catastrophic and impoverishing payments. The results of the study will assist policy makers

and programme designers in tracking the health care reforms and in designing and implementing social welfare policies in Nepal.

Data and methods

Data were drawn from a study on 'out-of-pocket expenditure on sexual and reproductive and HIV/AIDS among the urban population of Nepal' conducted in 2006 under the global resource flows on population and reproductive health initiative of the UNFPA in collaboration with Netherlands Interdisciplinary Demographic Institute (NIDI). The study was conducted in nine towns of Nepal (Kathmandu, Pokhara, Bharatpur, Butwal, Dharan, Biratnagar, Mechinagar, Hetauda, and Nepaljung), which cover around 50% of the total urban population of the country. A two-stage cluster sampling survey, using face-to-face structured interviews with 1,669 respondents from 992 households, was implemented. Of the 1,669 respondents, 664 were married women (15-49 years), 530 were married men (15-59 years), 244 were unmarried women (13-24 years) and 231 were unmarried men (15-24 years). In addition to the main sample, households with Person Living with HIV/AIDS (PLWHAs) at the time of survey were selected purposively with the help of PLWHA organisations. Out of 211 PLWHAs identified by these organisations, 167 were successfully interviewed and 137 disclosed their HIV status during the individual interviews.

Separate structured questionnaires were used for heads of the household, married men and women and unmarried men and women. The major topics covered were: individual particulars of household members, housing and socio-economic characteristics of the households, out-of-pocket expenditure of hospitalised household members, expenditure of deceased household members, maternal health expenditure, family planning expenditure, sexual and other reproductive health infirmities including HIV/AIDS related out-of-pocket expenditure. Questions related to out-of-pocket expenditure on maternal health and family planning were not asked to unmarried boys and girls. However, the use of condoms and their expenditure were asked to those who were sexually active. The questionnaires were pre-tested with similar types of respondents.

In total, 12 interviewers and 21 facilitators of PLWHA organisations were involved in the data collection. The field investigators were university graduates, experienced in conducting research on sensitive topics, and with matched gender to the respondents. The investigators were given one week intensive training before commencing data collection. All aspects of the study were approved by the Institutional Ethics Committee in Nepal. In addition, all the respondents involved in this study were fully informed about the nature of the study, the research objectives, risks and benefits, and the confidentiality of the data and their full consent for their participation in the study was obtained.

All completed questionnaires were entered into a database immediately after they were manually edited and coded. A computer software programme 'dBase IV' was used for data entry. After cleaning, the data were analysed using SPSS v.12.0. The out-of-pocket expenditures were analysed using average out-of-pocket spending levels per households or per individual. These average spending levels were calculated for those households or individuals that made use of any reproductive health and HIV/AIDS related services and goods. Where average out-of-pocket expenditures were calculated for the whole survey population, this is specifically mentioned. In the analysis, differentiation is made between public and private health care providers. Public health care providers included governmental hospitals, (sub) health posts and primary health centres. Private health care providers included profit and not-for-profit providers (NGOs).

To analyse the data by economic status of the households, per capita income data were used. Detail monthly income data were obtained. All households were ranked by their per capita income level and divided into three groups using centiles. For the purpose of this paper,

households having less than Rs 5000 (\$69) annual per capita income was defined as 'poor', per capita income between Rs 5001(\$69) and Rs 10,000 (\$138) as 'medium' and per capita income higher than Rs 10,000 (\$139 or higher) as 'rich'. As a result, 354 households fall in the poor, 336 in the medium and 302 in the rich category. Similarly, catastrophic payment is defined as 10% or more of the total household expenditure. Detailed description of the study design and limitations of the data collection are reported elsewhere (Puri et al. 2006).

Results

Characteristics of the sample population

The average family size of the sampled households was five and the sex ratio was 102 males for 100 females. Over one-quarter of household members were children below 15 years of age. A large majority of the sampled population were literate (89%), reflecting the urban sample. However, illiteracy was higher among female than male (16% among female versus 6% among male). Most of the households had a nuclear family structure (61%), and were residing in their own housing units (72%). A large majority of the households had cemented/bricks floor, walls and roof, and they had access to piped water (85%) and toilet facilities (97%). More than half of the household members aged 10 years or above (60%) were not employed at the time of interview. Over one-third of the employed members were involved in small-scale businesses.

The average monthly expenditure (Rs.14569/\$202) of households was higher than the average monthly income (Rs.10508/\$146), a feature which is commonly found in household budget surveys in other low income countries (Deaton, 1997). Comparing socio-economic characteristics of households with and without PLWHA, in general PLWHA households were living in poor circumstances. Experiences of sudden or serious financial difficulties were not uncommon in the sampled households. Over one in five households had experienced sudden and serious financial difficulties in the past 12 months. The proportion of households experiencing such difficulties was higher among PLWHA than non-PLWHA households (31% among PLWHA VS 18% among non-PLWHA).

Health insurance for household members was almost non-existent. Results show that roughly half of the households reported that they were able to meet the cost for the treatment of hospitalized family members exclusively from their own resources from regular income and about 19% of the households financed the cost of treatment by their own savings. A quarter of the households received free treatment from the NGOs. The rest of the households had to manage by borrowing cash from relatives, friends or by means of selling household assets. None of the respondents mentioned that they received any cash from either insurance companies or commercial banks.

Utilisation of sexual and reproductive health services and related out-of-pocket payments

Family planning services

A total of 118 married women (18%) and 109 married men (21%) had used modern contraceptives during the reference periods considered in the study (3 months for short term and 6 months for long term methods). Condoms appear to be the main contraceptive method (Table 1). Male contraceptive users were exclusively using condoms, and among women who reported using contraception within the reference period, 57% of them said that their husbands were using condoms. Over a quarter of women reported that they were using injectables, followed by oral pills. Two women reported that they were sterilized. Interestingly, a slightly higher proportion of poor men and women were using modern contraception as compared to the richer men and women.

Most of the current users of short terms methods (94%) reported that they have obtained family planning services from the private sector. This could be ascribed to the recent ongoing efforts to promote modern temporary methods in the private sectors. In contrast, all the IUD users reported obtaining services from public sources. Our data investigations show that the level of income was not associated with the choice of service providers.

Table 1. Percentage distributions of MWRA and currently married men aged 15-59 years according to types of method used in the last three months for short terms and six months for long term methods

Type of methods	Women		Men	
	N	%	N	%
Condom (Male)	67	57	109	100
Oral pills	15	13	*	*
Injectable	32	27	*	*
IUD	2	2	*	*
Female sterilization	2	2	*	*
Total	118	100.0	109	100.0

* Men were not asked about use of contraception by their wives. MRWA refers to Married Women of Reproductive Ages (15-49 years)

User fees for family planning services are almost non-existent in public health facilities in Nepal. Clients only need to pay small registration fees. However, user fees in private facilities vary depending on the types of services they offer to the client (not shown separately in table). The findings show spending on short-term contraceptive methods was higher than for long term methods. On average a short-term modern contraceptive (condom and oral pills) user spent Rs. 41 (\$0.58) per visit compared to a long-term (sterilisation, implants, intra/uterine devices and injectables) new user spent an average of only Rs. 27 (\$0.38.). The major portion of expenses was spent on purchasing of contraception (Rs.39/\$0.54). This was followed by transportation (Rs.10/\$0.14), medicines (Rs.9/\$0.13) and consultation (Rs.4/\$0.05).

Comparing the cost of individual methods (and bearing in mind small sample size for some methods) the lowest average expenditure was for female sterilisation (minilap) Rs. 13 (\$0.18), followed by IUD Rs. 15 (\$0.21). Most expenses on female sterilisation and IUD were related to transportation costs and the actual costs of obtaining the method itself were either nil or very low. In contrast, the average expenditure for injectable was Rs. 43 (\$0.59), with expenditures being higher in private facilities (Rs. 60/\$0.83) than at public facilities (Rs. 17/\$0.24). The average cost of oral pill was Rs. 45 (\$0.62), and the average cost for condom was Rs. 43 (\$0.60) for the periods of three months. Interestingly, over 40% of the condom users did not have to pay for services even in private facilities.

Maternal health services

Of the total 664 married women of reproductive age covered in this study, about 7% (43 women) reported being pregnant in the 12 months before the survey. Out of these 43 women, about 70% had utilized antenatal care (ANC) services from any source and the remaining women did not seek any care (Table 2). Data show that women from poor households were less likely to use ANC service than better-off women. Around 40% of the women from the poor and medium groups did not use ANC services compared to about one-tenth of the women from richest group.

Table 2 Percent distribution of women who had been pregnant in last 12 months before the survey according to their utilization of ANC, delivery and PNC and obstetric care services, type of providers and level of income

Type of care*	Income group			
	Total	Poor	Medium	Rich
Used antenatal care	70 (43)	61 (23)	62 (13)	88 (7)
Used delivery care	38 (21)	33 (15)	25 (4)	67 (2)
Used postnatal care	5 (21)	0 (15)	0 (4)	33 (2)
Used obstetric care	83 (6)	80 (5)	-	100 (1)
Type of provider for ANC				
Public facility	57	63	43	58
Private facility	40	31	57	43
Used both public and private	3.3	6	-	-
N	30	16	7	7

*Total percentage may exceed 100 due to more than one type of care used by women
Figures in parenthesis denote the denominator.

Among those who received ANC, 57% sought care from public facilities. This confirms the important role of the public sector in the provision of ANC. The dependence on the public facility is relatively higher among women with low income compared to their counterparts. In contrast, a higher proportion of women with better income had used private facilities for ANC compared to their counterpart poorer women.

Traditionally, Nepalese children are delivered at home, either without assistance or with assistance from traditional birth attendants or relatives and friends. This study found that about 38% of women, who had delivered within the past 12 months, had obtained delivery care services from health service provider. Due to small number of observations, the association between the level of income and the utilization of delivery care services could not be established. Moreover, only one woman had received postnatal care (PNC) services from any providers in the last 12 months before the survey. Similar to ANC services, public providers appeared to be the sole source of delivery care and PNC services.

Table 3 summarizes average out-of-pocket expenditures on antenatal care (ANC), delivery, and obstetric care services for these women. All those who used ANC services reported paying some cash regardless of the type of service provider. On average, women spent Rs. 1138 (\$15.8) for ANC services in total during the 12 month period before the survey date. The average amount spent by a woman for ANC services during that period was slightly higher at private than at public facilities (Rs. 1,284/\$17.8 versus Rs. 1,086/\$15.1). Of the total amount spent on ANC, the medical check-up accounted for at least 82% followed by travel costs. The cost for Tetanus Toxoid vaccination was almost free-of-charge in both public and private facilities. There were no major differences observed in the composition of expenditure between public and private ANC clients. However, it should be noted that about 20% of all ANC expenses incurred by a public client were devoted to travel costs compared to about 12% among private clients. This highlights the lack of geographical access to public health facilities even in urban areas.

Among women who did not experience complications, the average cost of institutional delivery was Rs. 3,018 (\$42). None of the women covered in the present study utilized private facilities for delivery. Although, token payment to traditional birth attendants is not

uncommon in Nepal, none of the households reported any expenditure as part of home deliveries. Overall, the charges for delivery in public facilities constituted the largest share of delivery expenditures (92%). The cost for travel and lodging was a very small part of the overall share of delivery expenses.

Table 3 Mean expenditure per MWRA on maternal health care services for all visits by women who had been pregnant in last 12 months preceding the date of survey by types of health services and facility

Type of care/costs	Total		Public		Private	
	Mean	%	Mean	%	Mean	%
Antenatal care service						
ANC medical check-up	940	82.6	847	78.0	1135	88.3
TT	3.5	0.3	6	0.6	0.4	0.1
Travel	174	15.3	198	18.2	149	11.6
Lodging	20	1.8	35	3.2	0.0	0.0
Total	1,138	100.0	1,086	100.0	1,284	100.0
N	30		17		13	
Delivery care service						
Delivery cost	2,788	92.4	2788	92.4		
Travel	105	3.5	105	3.5		
Lodging	125	4.1	125	4.1		
Total	3,018	100.0	3,018	100.0		
N	8		8			
Obstetric care service						
Treatment (e.g surgery) ¹	3,905	58.3	5,667	57.4	1,263	65.8
Separate Doctor's fee ¹	15	0.2	0.0	0.0	38	1.9
Medicine	2,030	30.0	3,300	33.4	125	6.5
Laboratory cost	452	6.8	700	7.1	80	4.2
Travel	166	2.5	208	2.1	103	5.3
Lodging	125	1.9	0.0	0.0	313	16.3
Total	6,692	100.0	9,875	100.0	1,920	100.0
N	5		3		2	

1- Treatment cost and separate doctor's fee is specific to in-patient services. Rest is applicable to both in-patient and out-patient services

The average cost for obstetric care services for maternal health related complications was much higher than that for regular ANC, normal delivery and regular PNC services. The mean expenditure on obstetric care services for complications was Rs. 6,693 (\$93). Treatment costs (such as for surgery) accounted for over half of this total obstetric care expense followed by medicines (30%), laboratory tests (7%), travel (2.5%) and lodging costs (1.9%). Surprisingly, the share of medicine costs as part of overall expenses is substantially higher for public patients (33%) compared with private patients (6.5%).

The average cost of postnatal care (PNC) services (not shown in Table 3) was Rs. 1,780 (\$24.7). Overall, (PNC) services cost constituted the largest share of PNC expenditure (56%) followed by lodging (38%) and travel (6%).

HIV/AIDS and other STIs

As previously mentioned, 167 PLWHAs interviewed in this study, only 137 had voluntarily disclosed their HIV/AIDS status during the individual interviews. Altogether 44 out of the total 1669 respondents (2.4%) had reported having other STI problems in the last months before the survey. About half of the PLWHAs and 41% of respondents who experienced STIs

had consulted at least one health care institution for HIV/AIDS care in the last three months before the survey (Table 4).

The utilisation of HIV/AIDS care seems to be slightly higher among respondents from poorer households in comparison to those from richer households, while the utilisation of STIs services was found to be comparatively lower in respondents from poorer households.

Table 4 Percentage distribution of respondents according to their frequency of visits by types of health service providers and income level for HIV/AIDS care and STI services in the last three months before the survey

HIV/AIDS care	Total	Income group		
		Poor	Middle	Rich
Number of reported PLWHAs	137	73	41	23
% of PLWHAs	100.0	53.3	30.0	13.9
% of PLWHA consulted with health services providers	49.7	50.7	51.2	42.1
Average number of visits	1.2	1.2	1.1	1.8
Types of facility for HIV/AIDS				
Public facility	29.4	21.6	42.9	25.0
Private facility	70.6	78.4	57.1	75.0
Total percent	100.0	100.0	100.0	100.0
N	68	37	21	8
Other STI services				
Number of respondents reported STIs	44	27	15	2
% of respondents reported STIs	100.0	61.4	34.1	4.5
% of STIs respondents consulted with health service providers	40.9	40.7	33.3	100.0
Average number of visits per client	1.3	1.0	1.4	2.5
Type of facility				
Public facility	33.3	45.5	20.0	-
Private facility	66.7	54.5	80.0	100.0
Total percent	100.0	100.0	100.0	100.0
N	18	11	2	2

The calculation on expenditure on HIV/AIDS and other STIs was based on 137 disclosed PLWHA and 44 respondents who reported experience of other STIs in the last three months prior to the survey. The average out-of-pocket expenditure per household on HIV/AIDS care during the three months prior to the survey regardless of type of provider, types of services and number of visits was Rs 541 (\$7.5). The average expenses for HIV/AIDS care in public facilities was around 7 times higher than that in private facility (Rs. 1387/\$19.3 versus Rs. 188/\$2.6).

Transportation accounted for about 30 percent of the total expenditure on HIV/AIDS care. This was followed by consultation fee (21%), medicine cost (19%) and diagnosis related costs (17%). The results show that private clients spent more on transportation than public clients. In contrast, public clients spent more on consultation than private clients.

The average out-of-pocket expenditure on STI services was Rs. 1,327 (\$18.4) regardless of the number of visits, types of providers and services in the last three months before the survey. In contrast to expenditures for HIV/AIDS, average expenses for other STIs related

Table 5 Mean expenditure per user in Rupees on HIV/AIDS and other STIs care for all visits by types of health services and facility

HIV/AIDS care	Total		Public		Private	
	Mean	Percent	Mean	Percent	Mean	Percent
Total cost	541	100.0	1,387	100.0	188	100.0
Transportation	159	29.4	335	24.2	85	45.2
Lodging	15	2.7	50	3.6	-	-
Bed charge	27	4.9	90	6.5	-	-
Treatment cost	37	6.8	125	9.0	-	-
Consultation fee	112	20.8	331	23.8	21	11.2
Medicine cost	102	18.9	215	15.5	55	29.2
Diagnosis	90	16.6	241	17.4	27	14.4
N	68		20		48	
Other STIs						
Total cost	1,327	100	266	100	1,857	100
Transportation	172	13	48	18.1	233	12.6
Bed Charge	12	0.8	35	13.1	-	-
Doctor fee	11	0.8	33	12.5	-	-
Consultation fee	310	23.4	8	3.1	461	24.8
Medicine cost	549	41.4	142	53.2	752	40.5
Diagnosis	273	20.6	-	-	410	22.1
N	18		6		12	

services were almost 7 times higher at the private facility compared to the private facility (Rs 1,857/\$25.8 versus Rs. 266/\$3.7). Medicine comprised the major share of expenses (41%), followed by consultation (23%) and diagnosis (21%). Respondents who used private facilities spent substantially more on consultation fees than respondents who used public facilities (Rs. 461/\$6.4 versus Rs. 3/\$0.04).

The practice of self treatment and the use of over the counter medicines for HIV/AIDS and STIs were common (traditional herbs or medicines, vitamins and medicines for other illness such as fever, diarrhoea). For example, about 38% of disclosed PLWHA reported self treatment for HIV/AIDS in the four weeks before the survey, spending on average Rs. 220 (\$3.1). Of those who had self treatment, 56 percent consumed over the counter medicines with an average cost of Rs. 93 (\$1.2). Similarly, about one in every five respondents with other STIs reported undertaking self-treatment. The average expenditure of self-treatment for STIs was Rs. 268 (\$3.7). Over 70 percent of persons with STIs who used self-treatment reported using over the counter medicines and spent about Rs. 60 (\$0.8) during the 4 weeks preceding the survey.

Other reproductive health care services

The other reproductive health care services considered in the present analysis include: reproductive tract infections (RTIs), cancers, fistula, and infertility. Out of 664 women and 530 men who were interviewed, 20 married women (3%) and one married man (0.2%) reported experiences of other reproductive infirmities. Of the 20 married women, 10 reported RTIs followed by 8 reported infertility and 2 reported cancers respectively. Only one married men reported cancer. None reported experiences of fistula in the three months reference period. Considering the very small effective sample size for other reproductive infirmities, the results presented concerning related expenditures should be interpreted with extreme caution and viewed as indicative.

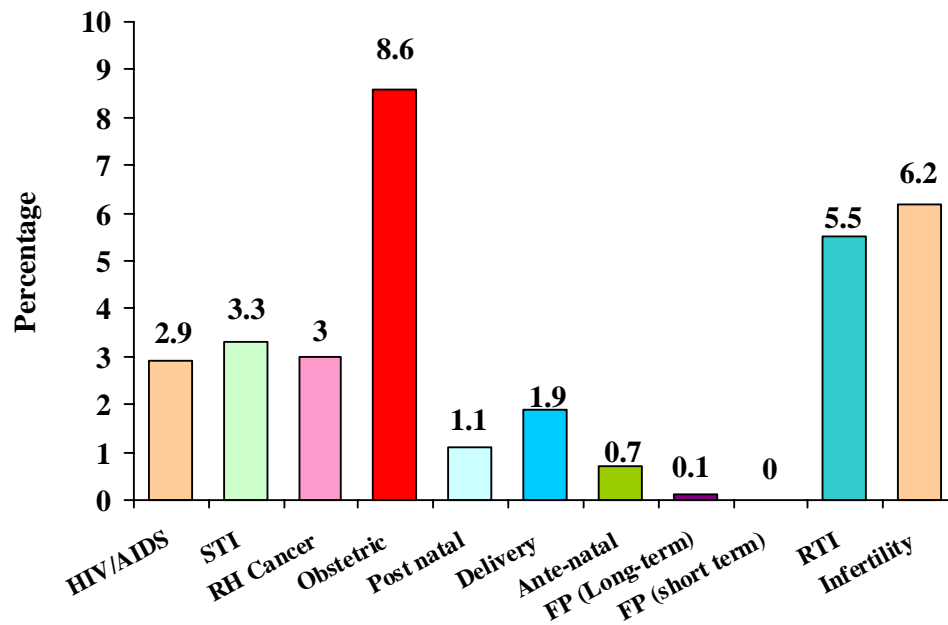
The average expense per user for infertility treatment was Rs 2,530 (\$35.1) followed by RTI (Rs 2,218 (\$30.8)) and cancer Rs 1200 (\$16.7), regardless of the health provider and the number of visits in the last three months before the survey. Out of the total out-of-pocket expenditure for RTIs, medicines accounted for about 40% of all cost followed by treatment (27%), consultation (17%) and laboratory services (12%) respectively.

Out of total expenses for infertility treatment, 92% was spent on laboratory tests, while costs for consultation services accounted for about only 6% followed by expenses on transportation (2%). Similarly, out of total expenditure for cancer treatment, laboratory cost accounted for 75%, followed by expenses related to medicines (25%).

Total spending on reproductive and sexual health care and household burden

In the previous section out-of-pocket expenditures were analysed using average out-of-pocket spending levels calculated only for those households or individuals who used reproductive health and HIV/AIDS services. In order to examine the overall burden of payments for SRH average out-of-pocket expenditure are calculated for the whole survey population irrespective of use or non-use of services, Annual out-of-pocket expenditures are expressed as percentage of total annual household expenditure. Overall, spending on RSH accounted for 1.1% of total annual household expenditure and spending on HIV/AIDS care accounted for 2.9%.

Figure 1. Annual out-of-pocket expenditure for HIV/AIDS and RSH care services as percentage of annual household expenditure



From a population perspective it appears that spending on RSH does not represent a significant burden on urban households. However, the burden varies considerably with need. Figure 1 show the average out-of-pocket expenditures as a percentage of annual household expenditure for households where at least one individual member has required health care. Households with one or more members having a maternal health problem requiring (emergency) obstetric service were the worst affected. Almost 9% of their total expenditure was allocated to the payments for obstetric care alone, which is close to the 10% threshold,

which is defined by several authors as catastrophic payment for total health care costs (Wyszewianski, 1986; Berki, 1986; Water et al., 2004).

The out-of pocket expenditure for treating infertility and reproductive tract infections puts heavy burden on the total household expenditure. This burden is even greater than a household with an HIV infected person, the main reason being that most services for HIV patients are offered free-of-charge (although ARV coverage is very low), whereas this is not the case for infertility and reproductive tract infections. Similarly, most family planning services are offered free-of-charge and thus hardly any impact on the household budget. However, households that need to utilise RSH and/or HIV/AIDS services due to multiple health problems are expected to cross the threshold for catastrophic payments.

Table 6 presents the annual gross out-of pocket expenditure for households on reproductive health and HIV/AIDS care services. Total annual out-of-pocket expenditure for reproductive health and HIV/AIDS in the sample population was Rs 347,420 and Rs 248,092 respectively – or an average of Rs 475 and Rs 954 per household. Households that had utilized any RSH services spent Rs.2,578 (\$35.8). Households that utilized any RH care services paid on average Rs. 1,720 (\$23.9) per household. More than double these costs were paid by households that used any HIV/AIDS care services (Rs.3,648/\$50.7). Annual average out-of-pocket expenditure by type of provider shows that the largest share of out-of-pocket payments for RSH was in public facilities (Rs. 2,312/\$ 32.6 for RH and Rs. 6,527/\$90.6 for HIV/AIDS). This is probably because a patient with RH complications is more likely to visit public facilities due to expertise and assurance of health care in public facilities that occurred relatively high cost. Whereas, the HIV/AIDS services are offered free of charge by private non-profit organizations.

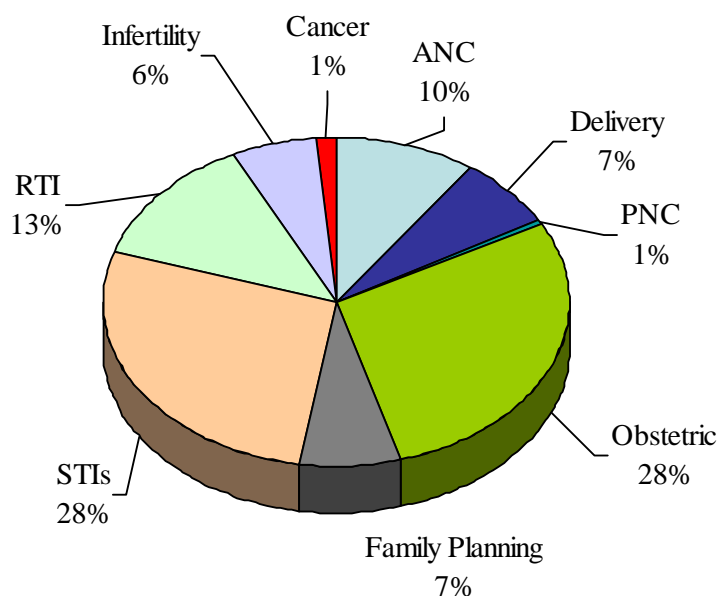
Table 6 Gross annual out-of-pocket expenditures of households on reproductive health and HIV/AIDS care services

	RH care services (in Rs)	HIV/AIDS care services (in Rs)
Total out-of-pocket expenditure for survey population	347,420	248,092
Annual average out-of-pocket expenditure per household regardless of use or non use of RSH care services	475 (732)	954 (260)
Annual average out-of-pocket expenditure per household who had utilised services	1,720 (202)	3,648 (68)
Out-of- pocket expenditure as percentage of total annual household expenditure	1.1	2.9
Annual average out-of- pocket expenditure per household by provider		
Public provider only	2,312	6,527
Private provider only	1,052	821
Both public and private provider	3,743	-

* Numbers within parenthesis are number of households

The distribution of out-of pocket expenditure by the major components of RSH care services shows that almost half of all out-of-pocket payments were for maternal care (46%), followed by expenditures for STIs (27%) and RTIs (13%) respectively. Out-of-pocket expenditure on family planning services was very modest (7%). This is due to the provision of free contraceptives and related services in public facilities.

Figure 2. Percentage distribution for out-of-pocket expenditure for major components of RSH care and services



Discussion and conclusions

This study is one of the first of its kind in Nepal, or indeed globally, that examines the financial burden for reproductive and sexual health care services of individuals and households. As in many other developing countries, the government of Nepal is facing increasing pressure to improve the efficiency and financial viability of the health services delivery system, particularly in the light of renewed commitments to improve living conditions for the poor including the strategies to achieving the MDGs. This paper contributes to an informed discussion of the links between reproductive health and poverty, providing facts regarding the level of out-of-pocket expenditure for RSH care. The findings will support policy makers and programme managers in designing appropriate policies relevant to MDGs in a resource-constrained setting.

From the survey carried out in urban areas of Nepal, the annual gross out-of-pocket expenditure as percentage of total annual household expenditure was 1.1% on average for sexual and reproductive health and 2.9% on average for HIV/AIDS care services. This is lower than for some other developing countries. However, the study revealed that catastrophic financial payments are likely to be incurred by households with one or more members suffering maternal health problems and/or utilizing obstetric care services. Almost 9% of such households' total annual expenditure consists of payment for obstetric care. This result implies that a multitude of RSH problems can seriously aggravate the financial situation within households. The financial burden on households will become even more serious when private providers start charging fees for services that are presently offered for free (in public sectors and in NGO sectors), for example for HIV infected persons; or when the cost of

transportation become a large component of out-of-pocket expenditures, for example in rural settings. Therefore, there is strong need for establishing a health insurance system to ensure that the utilization of the health services by the households remains unaffected by their ability to pay, and to develop a safety net for preventing households from having to make catastrophic payments for their health. Despite the fact that community level insurance schemes are being piloted in the country, none of the respondents covered in this study reported financing the cost of their RSH treatment from insurance companies. Households reported having to take care of the financial difficulties by themselves, either by using savings or borrowing from others. Therefore, any ongoing health insurance schemes should be carefully evaluated and scaled up with required improvements.

In addition to obstetric care, treatment for infertility problems and reproductive tract infections are likely to cause relatively heavy financial burden on total household expenditures. The findings reveal that spending on RTIs and infertility can even surpass payments made by households with HIV/AIDS infected members. The good news, however is that in contrast, most family planning services in the country are offered without charge and thus their use hardly draws on the household budget.

The study found no major differences in the antenatal care services cost between private facility and public facilities. However, it was noted that a significant share of the expenses incurred by a public client were to meet travel costs. This highlights difficulties in accessing public health facilities even in urban areas. The government has already adopted a strategy to increase the number of outreach clinics and health facilities to reduce travel time and costs, but little attention has been paid to any alternative ways to reduce this cost. An alternative mechanism such as the possibility of extending the supply network or improving referral networks should be explored.

Our analyses show that Nepalese women giving birth in facilities pay a significant amount of money (\$42) compared to home delivery. Overall, charges for care at childbirth constituted the largest share of delivery expenses. This finding contradicts with the previous study (Borghi et al. 2006). The Borghi study found that fees charged by the health facility for normal delivery are roughly comparable to the total expenditure incurred for home delivery. However, when the cost of transport and additional items are added, institutional delivery can become much more expensive (\$71). The discrepancy in this result could be due to differences in study populations. This study was conducted among urban population and clearly costs for transportation are generally lower in urban areas when compared to rural areas.

Although the payment to HIV/AIDS and STIs care services was not catastrophic for the household, the study showed very few respondents had sought these services. Only one out of 68 disclosed PLWHAs respondent had received ARV treatment. Therefore, catastrophic health expenditure is only observed when households need, have access and use health services. The study revealed that both access and use of the services of HIV/AIDS and STIs treatment and care are limited among the urban population. This could be due to lack of accessibility and/or availability of the services and/or financial reasons. Surprisingly, the practice of self treatment and use of over the counter medication for HIV/AIDS and other STIs are relatively common. This needs to be further investigated.

Finally, since the majority of the Nepali population live in rural areas, any study conducted in urban areas tells us only part of the story. Therefore, a study such as this to ascertain the impoverishing effect of out-of-pocket expenditures for reproductive and sexual health is urgently needed for rural areas.

Limitations of the study

This study has a number of limitations that must be pointed out. First and foremost are the problems presented by small sub-sample sizes. Although the study had relatively large overall sample size, utilisation of RSH services are relatively uncommon with the result that even with a large sample population the numbers reporting spending on particular services are low. The results are therefore subject to large standard errors and must be interpreted with caution. Although the results may not be generalised to a wider population, they can nevertheless be thought of as indicative of the costs faced by the urban population. Second, it is recognised that opportunity costs are an important factor in the overall costs of health care. However these costs, such as lost earning opportunities in time spent seeking health care, are difficult to operationalise and so, in common with many other studies, they are not included here. Finally, given the cross-sectional nature of data, it is likely that survey responses were subject to recall errors. Despite these limitations, this study can be claimed to be pioneering because this is the first attempt to systematically collect out-of-pocket expenditure data on RSH care and services, and the study makes an important contribution to fulfilling major information gaps in this area in Nepal.

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References

- Berman PA. 1997. National health Accounts in developing countries: appropriate methods and recent applications. *Health Economics* 6(1): 11-30
- Berki SE. 1986. A look at catastrophic medical expenses and the poor. *Health Affairs* 5: 139-45
- BC RK and Bamali P. 2004. Desk review of macroeconomics and health studies undertaken in Nepal over the period of January 1999-August 2004. *Journal of Nepal Health Research Council* 2(2): 41-47
- Borghji J, Ensor T, Neupane BD and Tiwari S. 2006. Financial implications of skilled attendance at delivery in Nepal. *Trop Med Int Health* 11: 228-37.
- CREHPA. 2000. Study on Impact of Reproductive Tract Infections (RTIs) on Women's Health and Lives in Nepal: an unpublished study report submitted to Likhaan, RTI Asia Project, Philippines
- CBS/HMG. 2003. Population Monograph of Nepal, Volume-I. Central bureau of statistics, National Planning commission, Kathmandu, Nepal
- CMH. 2001. Macroeconomics and Health: Investing in health for economic development. Commission on Macroeconomics and Health. World Health organisation. Geneva.
- Deaton A 1997. *The Analysis of Household Surveys: A Microeconometric Approach to Development Policy*. John Hopkins University Press and the World Bank, Washington D.C.
- Doorslayer, E., O'Donnell, O., Rannan-Eliya, R.P., Somanathan, A., Adhikari, S.R., Garg, C.C., Harbianto, D., Herrin, A.N., Huq, M.N., Ibragimova, S., Karan, A., Ng, C.W., Pande, B.R., Racelis, R., Tao, S., Tin, K., Tisayaticom, K., Trisnantoro, L., Vasavid, C. and Zhao, Y. 2006. Effect of payments for health care on poverty estimates in 11 countries in Asia: An analysis of household survey data, *The Lancet* Vol 368, pp1357-1364
- Gwatkin DR, Johnson K. Pande RP and Wagstaff A. 2002. Socio-economic Difference in Health, Nutrition and Population in Nepal. The World Bank, HNP/Poverty Thematic group.
- Hotchkiss DR, Rous RJ, Karmachrya K and Sangraula P. 1998. Household health expenditure in Nepal. Implications for health care financing reform. *Health Policy and Planning*. 13(4): 371-383
- Kawabata K Xu K and Carrien G. 2002. Preventing impoverishment through protection against catastrophic expenditure. *Bulletin of the World Health Organisation* 80:612
- Messen B. Zang Z. 2003. Iatrogenic Poverty. *Trop Med and Int Health*. 8(7):581-584
- Ministry of Health. 2004. Nepal Health Sector programme-Implementation Plan. Kathmandu Nepal
- Ministry of Health and Population, Family Health International. 2005. National estimation of adult (15-49 years) HIV infections in Nepal, Kathmandu, Nepal
- Nepal DHS. 2006. Nepal Demographic and Health Survey, Ministry of Health Nepal, New ERA, and ORC Macro. Calverton, Maryland, USA
- National Planning Commission. 2003. Tenth five year Plan. Kathmandu: National Planning commission
- Nepal Health Economic Association. 2003. Health care financing and financial management in Nepal. NHEA, Kathmandu, Nepal.
- OECD and WHO. 2003. DAC guidelines and reference series. Poverty and Health. Paris, OECD and WHO.
- Puri, M., Horstman, R. Shrestha, M., and Pradhan, E. 2006. Out-of-pocket expenditure on sexual and reproductive health and HIV/AIDS among the urban population of Nepal, Centre for Research on Environment Health & Population Activities and Netherlands Interdisciplinary Demographic Institute. Available from www.resourceflows.org/index.php?module=uploads&func=download&fileId=249

- Rous, JJ., and Hotchkiss, DR. 2003. Estimation of the determinants of household health care expenditures in Nepal with control for endogenous illness and provider choice. *Health Economic*, 12: 431-451.
- Seddon D., and Adhikari, J. 2003. Conflict and food Security in Nepal: A preliminary analysis. Rural Construction Nepal (RRN). Kathmandu Nepal
- UNFPA.2004. State of world population 2004. New York
- UNDP.2005. Human Development Report. New York: United Nations
- Water, HR., Anderson, GG., Mays, J. 2004. Measuring financial protection in health in the United States. *Health Policy*. 69:339-49
- Whitehead M, Dahgren G. 2001. Equity and health sector reforms: can low income countries escape the medical poverty trap? *The Lancet*. 358: 833-36
- Wyszewianski L. 1986. Financially catastrophic and high costs cases; definitions, distinctions, and their implications for policy formulation. *Inquiry*, 23: 382-94
- World Bank. 2004. The Millennium Development Goals for Health. The rising to the challenges. Washington DC. World Bank
- World Health Organisation. 2004. Country Health profile-Nepal. Available from http://w3.who.org/En/Section313/Section1523_6862.htm.