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# Out-of-Pocket Expenses borne by the User of Obstetric Services at Government Hospitals in Karachi, Pakistan

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## Abstract

**Objective:** Financing health services is a challenge for health policy makers world over, especially in developing countries. Alternate mechanisms such as user fees are being proposed. However, there is a feeling that in developing countries, users of government hospitals spend appreciable personal income to obtain “free services” at these facilities.

**Methods:** This study aimed to measure the extent and the factors associated with of out-of-pocket expenses borne by the users of obstetric care at government hospitals. It also aimed to determine willingness of consumers to bear out of pocket expenses. It was conducted in three government hospitals in Karachi.

**Results:** Seven hundred cases were registered in the study. Sixty five percent of them had a monthly household income of less than Rupees (Rs.) 3000. Overall, users spent mean of Ps. 590 as out-of-pocket expenses for obstetric services. 01 this Rs. 330 was spent on drugs and Ps. 24 on user fees. Thirty nine percent of the patients were willing to spend out of pocket for services provided at government hospital and 39% declined to do so. Of the patients indicating willingness to spend, 98% agreed to do so for drugs.

**Conclusion:** The results suggest that considerable expenses are borne out of pocket by the users of government hospitals for supposedly “free services”. If user fees are to be increased the government needs to provide services for which the people will pay, such as drugs, otherwise increase in this fees will simply add to financial burden on the users (JPMA 50:412, 2000).

## Introduction

Deteriorating economic conditions in developing countries have led to an increasing interest in methods of financing other than the public sources. The World Bank report “Financing health services in developing countries” suggested certain major policies - users fees, insurance and use of non-government (private) sources effectively<sup>1</sup>.

Of the several policy options suggested by The World Bank, introduction or increasing user fees for health services in public sector is receiving the most attention<sup>2</sup>. The Bank’s report. suggests levying user charges at government facilities especially for drugs and curative services, with a differential fee to protect the poor<sup>1</sup>. Some countries have been charging user fees for a number of years while others are in the process of introducing them. User fees are typically justified on the ground that people are willing and able to pay for health care. Evidence in support of this assumption is generally derived from household or aggregate expenditure surveys or from attitude surveys in which people are asked how much they would be willing to pay for a particular service<sup>3,4</sup>.

Pakistan’s health sector is seriously under-funded. It has a large and rapidly expanding population with limited resources. Total expenditure on health is estimated to be 3.5% of GNP including a contribution of over 2.5% of GNP by the private sector<sup>5</sup>. Direct Government allocations to health only account for 0.75%<sup>6</sup>. Government health services are utilized by an estimated 20% of the population<sup>5</sup>. The people utilizing these services are poor with the existing economic constraints the public sector is not able to cater to the health needs of the fast growing population. This has necessitated an exploration of additional sources for health care financing. The eighth five year plan clearly mentions that the public

health expenditure is generally lagging behind due to overall funding constraints<sup>6</sup>. The total budgets are not even keeping up with growing inflation so that any increase in allocation of health goes to salary limiting funds for commodities and services. The plan suggests shifting some cost to the users or to the private sector, particularly in the case of hospitals which consume the major share of the non-development budget. It suggests that deliberations are needed to explore which modalities of user charges will meet with less public resistance relative to their revenue generating potentials.

In Pakistan, nominal user fees have been implemented in some public health facilities. In Sindh Province Rs. 1 is charged per out-patient visit and Rs. 5 per in-patient stay per day. This could be compared to 1 which is the minimum cost for one meal for an individual. There is no uniformity in user fees across the country. Often these charges are not collected. This revenue generated from user fees is relatively small estimated as 4.6% of the public sector health expenditure in 1986-87<sup>7</sup> and 2.5% of the public hospitals budget<sup>6</sup>. These fees, when collected go into a general revenue pool from which different sectors get budgetary allocations. The literature on effect of raising user fees at government health facilities in Pakistan is sparse. One study shows that following a price rise there will be lower use of government clinics and greater use of private care providers rather than to an increase in self-care or the foregoing of care<sup>8</sup>.

It is generally felt that in developing countries users of government hospitals already spend sizable amounts out of pocket to obtain supposedly "free services" at these facilities. Expenditure include direct costs borne by the patients to obtain services such as drugs, food, laboratory and blood transfusions due to shortages or poor quality services<sup>9</sup>. In Pakistan there is no information on the extent and the reasons for the direct expenses incurred by the users of government hospitals. Before rational policy decisions are made and implemented it is important that the policy makers have adequate information about the current level of out-of-pocket expenses. Karachi is a large metropolis with a population of approximately 12 million, growing at an estimated rate of seven percent per year. Forty percent of its population lives in squatter settlements lacking basic amenities. The provincial Government of Sindh operates one teaching and five non-teaching hospitals in Karachi. The teaching hospital also serves as the tertiary referral center for Sindh Province (population 40 million). People have the option of using any of the private or public health facilities and can approach these directly without referral. The public sector facilities are generally used by the poor and lower middle class population. This study explores the expenses borne by selected users of government hospitals in Karachi and the factors associated with these expenses.

## **Methodology**

We conducted a study in four obstetric units within 3 hospitals operated by Sindh Provincial Government in Karachi. Two of the obstetrics units were in the teaching hospital and one unit was in each of the two non-teaching hospitals.

Study subjects included all new admissions/ re-admissions for obstetrical care during the months of July and August 1994, irrespective of diagnosis. We expected to collect at least 150 cases from each obstetric unit during this period. Obstetric units were studied because the variety of cases seen is limited, making comparative analysis between facilities possible. In addition length of stay for obstetric admissions (including cesarean section) tends to be short and these cases are less affected by seasonal variation. The cases were registered within 24 hours of admission and followed to the time of discharge. Patients admitted for a period of less than 24 hours were not included in the study. Trained interviewers collected information using a structured questionnaire. Information about socioeconomic and demographic characteristics were asked to determine age and occupation of patient, husband's education and occupation, monthly income of the household, ownership and type of housing.

Willingness was determined by asking whether patient was willing to pay for particular services if they were not available in the facility. If so, how much and for which services. Illness related information

was obtained from medical records. Information about the direct expenses was obtained every day through review of medical records and where needed from the patient. Prices of drugs, laboratory investigations, supplies, and blood transfusions were obtained from nearby retail outlets. Interviewers explained the purpose of the study to patients, whose participation was voluntary.

The data was entered and analyzed on Epi Info<sup>10</sup> and SAS should add a reference. For means comparison we used variance analysis (ANOVA) when their variances were homogeneous (Bartlett's test) and the Kruskal-Wallis non-parametric test otherwise. For comparing prevalence between two groups the CM-square test was used. Proportion of direct expenses were calculated by determining proportion of expense for different services for each patient individually and then by calculating the mean of these proportion.

## **Results**

A total of 700 obstetrical patients, meeting the criteria for inclusion in the study, were registered in the 4 obstetric units. One hundred ninety five and 166 patients were registered in the two units of the teaching hospital and 188 and 151 in two non-teaching hospitals respectively. We did not encounter any refusal however, 3 patients whose information was not complete and 3 patients spending a total of more than Rs. 10,000 out of pocket were excluded from analysis. The latter was done as these were outliers and others had spent less than Rs. 5000.

The mean age of the Fifty six percent of patients illiterate. Only 7% of cases patients was 26.9 years (SD 7.4). and 40% of their husbands were and 15% of spouses had over 10 years of formal education. Ninety six percent of the women were housewives while 63 percent of their husbands were laborers. Sixty five percent of users reported a monthly household income of less than Rs. 3000 (US\$ 1 Rupees 32). Only 8 percent earned Rs. 5000 or more per month.

The most common diagnosis was full term pregnancy (61%), followed by abortions (13.4%), preterm pregnancy (3.4%), hemorrhage (3.3%) and contracted pelvis/cephalopelvic disproportion (2.4%). Eighty eight percent of users underwent one of the three obstetrical procedures: cesarean section: normal delivery and dilatation and curettage (procedures for abortion). Although all units had operating room facilities, only 5 out of total 95 cesarean sections were carried out in one of the non-teaching hospitals units; the rest were at the teaching hospital. Normal delivery and dilatation and curettage were performed at all units.

All patients enrolled in the study had to directly pay for one or more services (Table 1),

**Table 1. Direct expenses borne (in Pak. Rupees) by users of obstetrics services in four hospital units, Karachi, Pakistan July-August 1994**

	N	Percentage of patients	Median	Range	Proportion of direct Expenses (%)
Total*	694	100	343	22-4971	
Drugs	681	98	146	3-3733	44
Laboratory	32	5	75	10-585	18
Blood Transfusion	48	7	480	90-1480	44
Medical/surgical supplies	665	96	127	4-447	37
Formal Fees	691	100	22	5-122	7
Informal Fees	415	60	45	10-1000	18

\* All direct expenses included.

as all incurred costs for drugs, formal user fees, medical/surgical supplies and informal fees. Drugs were bought by 681 patients and constituted 44% of direct expenses whereas formal user fee constituted only 7% of total direct expenses.

The mean direct expense incurred for normal vaginal delivery in patients who were full term and presented with labor pains was different across hospital units (Table 2).

**Table 2. Direct Expenses\* (in Pak. Rupees) borne by users of obstetrics services in four hospital units, Karachi, Pakistan July-August 1994 for normal vaginal delivery in cases of full term pregnancy with labor pains.**

	N	Mean	Median	Range
<b>Total</b>				
All Hospital Units	373	349	298	85-1679
Teaching Hospital I	94	370	321	168-1099
Teaching Hospital II	37	476	352	85-1679
Non-teaching Hospital A	132	258	235	89-1002
Non-teaching Hospital B	110	396	246	196-1661
		P<0.001		
<b>Drugs</b>				
All Hospital Units	366	138	102	6-1556
Teaching Hospital I	94	197	157	22-842
Teaching Hospital II	37	262	157	11-1558
Non-teaching Hospital A	125	62	40	6-804
Non-teaching Hospital B	110	133	115	20-558
		P<0.001		
<b>Medical/Surgical Supplies</b>				
All Hospital Units	372	139	130	53-477
Teaching Hospital I	94	102	92	65-185
Teaching Hospital II	36	120	92	53-477
Non-teaching Hospital A	132	141	131	67-317
Non-teaching Hospital B	110	173	167	119-311
		P<0.001		
<b>Formal Fees</b>				
All Hospital Units	373	22	22	8-102
Teaching Hospital I	94	18	16	8-84
Teaching Hospital II	37	16	13	8-25
Non-teaching Hospital A	132	22	22	20-27
Non-teaching Hospital B	110	27	27	22-102
		P<0.001		

Expenditure on drugs constituted 36% and on medical/surgical supplies were 44% of these expenses whereas formal user fees only accounted for 7%. When individual units within teaching and non-teaching hospitals were compared, differences in total direct expenses within 2 units of teaching hospital was not significant ( $p=0.3$ ). However the difference between 2 non-teaching hospital units was

significant ( $p < .001$ ). For patients with a household income more than Rs. 3000 the mean was Rs. 378 ( $p = .056$ ).

Overall mean direct expense for cesarean section was Rs. 1661. of this 66% were expenses on drugs and only 3% on formal user fees. These expenses were also different across the 3 units which provided this service. Total mean direct expenses for cesarean section were Rs. 1155, Rs 1985 and Rs. 1985 for Teaching Hospital Unit I and Unit H and Non-teaching Hospital B respectively.

Overall mean direct expense for dilatation and curettage was Rs 540. Of these 51% were spent on drugs and 7% on formal user fees. This was significantly different in the four units even when duration of stay was controlled. Total mean direct expenses for dilatation and curettage were Rs. 432, Rs 791, Rs. 488 and Rs. 286 for Teaching Hospital Unit and Unit and Non-teaching Hospital A and B respectively ( $p < .001$ ).

When asked on the first day of admission whether they would be willing to pay for services needed but not available at the facility, 39 percent agreed to spend out of pocket. An equal number were unwilling to pay whereas 22 % were unsure. Drugs were the most favored service for which patients were willing to pay, followed by the laboratory (Table 3).

**Table 3. Preferred services for which users of obstetrics services in four hospital units, Karachi, Pakistan were willing to pay out-of-pocket among those patients who expressed willingness to pay (n=273).**

	No.	Percentage
Drugs	267	97.8
Laboratory	173	63.4
Blood Transfusion	101	37.0
Food	89	32.6
Doctor's Fee	65	23.0
Nursing	22	8.1
Others	8	2.9

Poorer patients were less willing to contribute. When the group having less than Rs. 3000 monthly income was compared to those earning Rs. 3000 or more, 45% (of 273) in the former group and 80% (of 273) in the latter group showed willingness to contribute ( $p < .001$ ).

### Discussion

Our study shows that users of obstetric services at purportedly free\* government hospitals spend substantial amount of their monthly household income out of pocket for medical services. Our findings are consistent with a Tanzanian study that found users of government health facilities incurred substantial out of pocket expenses including 57% on drugs<sup>9</sup>. We did not find a difference in direct expenses between levels of hospitals i.e., teaching and non-teaching. However there was a variation in direct expenses at the level of individual units.

The majority of the people expressing willingness to spend for services preferred to pay for provision of drugs and laboratory services. This may be because they are aware that drugs are not available at government health facilities. In addition, drugs and laboratory services are tangible. People are less willing to pay for nursing care and doctors consultation as these are considered services for which

government pay salaries. The poor were less willing to spend out of pocket. This was expected and suggests that a large portion of the users come to government hospitals to obtain “free services” because they are unable to pay. However willingness to pay should be viewed with caution as these patients were asked when they were already admitted to the hospital. Even those who did not express willingness to pay at the time of admission ended up paying while receiving care. This was because of the fact that the services required were simply not available and to get these patients had no choice but to buy them.

There were a few limitations to our study. It was carried out in only three provincial government hospitals in Karachi. The teaching hospital is the only provincial government managed teaching hospital in Karachi and has three obstetrics units, However the provincial government manages five non-teaching hospitals in Karachi. This may have some bearing on the variation in expenses we have noticed between hospitals. We did not go through the detailed medical histories of patients, so variation in seriousness may have affected expenses. However even in case of normal deliveries, which is a condition without much clinical variation, we found a difference in expenses across hospital units. Also the monthly household income was self-reported and patients may not have known the exact monthly income. However we asked income as categories thus making groups of low income and relatively better income less biased. In addition we asked about borrowing money for coming to the hospital. This had a good correlation with income groups. Those reporting monthly income of less than Rs. 3000 stated they borrowed.

If user fees are considered as a major option for improving financing of government health services in Pakistan, the increase in the current level of user fees has to be substantial. Also, this increase has to be balanced by an improved service like availability of drugs and laboratory facilities for which users are willing to pay. The eighth five year plan of Pakistan proposes that systems of user charges be introduced with improvement in the quality of services; to charge consultation fee in out-patient and admissions fees per in-patient day and fee for procedures and diagnostic tests, support services and private beds in the government hospital be charged at its full cost recovery. In addition it proposes that hospitals be allowed to utilize the generated income for the requirements of hospitals and better services of the masses.

The eighth five year plan however does not mention what services are lacking which need improvement. In this context implication for raising user fees should be considered in at least two scenarios. In one, if the user fees are raised to be spent on major recurrent expenditure of salaries than this raise will add a burden to the users and may even shift users to private sector or they may not even come to health care providers. A Kenyan study supports this argument; following the introduction of user charges the utilization of health services dropped by some 38 percent, but after the abolition of registration fees the use of health services increased<sup>11</sup>. On the other hand if the user fees are utilized for better provision of services for which users are already paying out of pocket particularly drugs than this may lessen time burden on the user. Additionally decentralization of collection and use of the fee to the level of facility needs to be seriously considered.

Users of government hospital already pay substantial out-of-pocket expenses. The majority of patients using government services are poor as is seen in our study. These poor people are choosing self care or private providers. To increase costs, means even fewer people will likely be able to afford services. From our study we find that users of government hospitals already pay substantial out-of-pocket expense for buying services which are not available. Most of these users are poor. In addition willingness for a direct payment for these services is more for tangible services. Unless an increase in users fees is balanced by a better provision of these services the users may stay away from these institutions. Already there is an increasing need of additional finances to match an increase in salary and other recurring costs. These plus inefficiencies of system may make the increase in tangible services like drugs and medical/surgical supplies difficult. Thus, user fees if increased to a level to make any impact on the financing of these institutions will be an additional burden to these poor users.

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