

Disparity of out of pocket expenditure on reproductive health related disorders across gender and life course

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Abstract

Background: In most developing countries, reproductive health accounts usually do not tend to reflect the extent of out-of-pocket expenditures by households. Studies elsewhere have shown that individuals and households spending cover a substantial part of total financial resource flows on reproductive health such as sexually transmitted infections (STI) and reproductive tract infections (RTI). However, these out-of-pocket expenditures (OOPE) remain poorly visible in resource tracking efforts since they require specialized surveys.

Objectives: This study examined the extent of out of pocket expenditures on STIs and RTIs along gender and life course in a rural setting of Ethiopia.

Methods: A cross-sectional survey design was employed to collect household level data on the utilization of (modern and traditional) healthcare and expenditures during the period of one month preceding the study period.

Results: The mean expenditure for laboratory tests and treatment by women with RTI was Birr 17 and 58 at public and Birr 22 and 54 at private facilities respectively while the average expenditure for STI was Birr 24 and 57 by men at private providers respectively. Transportation and accommodation expenditure of the patient and caregiver also constitute significant expenditure while seeking health care. The mean expenditure for transportation related to RTI was Birr 23 and 16 for women and men respectively. Respondents used different means to mobilize the finances for their Reproductive Health (RH) care expenses including regular income, borrowing from their relatives and friends, using own saving, or borrowing from local money lenders.

Conclusions: Even if reproductive health services are provided mainly by resources mobilized by the public sector, household private out of pocket expenditures on RTI and STI services are significant. Thus this expenditures need to be further investigated for other RH services to see the flow of resources. *Ethiop. J. Health Dev.* 2012;26 Special Issue 1:258-264]

Introduction

The World Health Organization defines reproductive health as a state of physical, mental, and social well-being in all matters relating to the reproductive system and to its functions and processes at all stages of life (1). Major aspects of reproductive health include improving antenatal, delivery, postpartum, and newborn care; providing high quality services for family planning, including infertility services; eliminating unsafe abortion; combating sexually transmitted infections including Human Immune-deficiency Virus (HIV), reproductive tract infections, cervical cancer and other gynecological morbidities; and promoting sexual health (2).

The world development report 1993 revealed that the burden of sexually transmitted infections (STIs) in many low income countries account for substantial proportion of the total disease burden. More than 340 million new cases of curable sexually transmitted infections are estimated to occur in women and men of age 15-49 every year throughout the world. The largest proportions (75-85%) of which occur in Africa (3).

Having such huge burden of STIs, directly translates to huge economic burden. Developing countries face 17% of economic losses as a result of ill health (1). However, low income countries rarely have the financial means for the provision of adequate health care services. Most resources for health care including reproductive health services are mobilized mainly through public sector with various forms of external assistance.

However, individuals and households spending also share a substantial proportion of total financial resource flows on reproductive health services (4). Households' private expenditure in developing countries is mainly made out of pocket. A number of studies have shown that out of pocket financing reduces access to reproductive and other health services (5-7). Besides, these expenditures are found to be the most important factors causing impoverishment in several countries (6, 9).

Reproductive health accounts usually tend not to reflect the extent of out-of-pocket expenditures incurred by households for these conditions (10). In 2004/05 the national health accounts of Ethiopia had shown that reproductive health spending accounted for 12% of the national health expenditure and in 2007/08 the share was 13%. International donors accounted for 36% of the total expenditure on RH while household made 25% of the total RH expenditure (11, 12). Thus even if it is assumed that donors and international agencies are the primary source of expenditures for RH, households also contribute considerable proportion of resource for RH. Moreover, the general income and expenditure surveys provide inadequate tools to measure these health expenses. As a result, OOPE on RH remain poorly visible and overlooked in resource tracking efforts. Moreover there are indirect expenditures such as transportation, food, and accommodation related to care seeking that is not considered in expenditure surveys.

Estimating and documenting out-of-pocket expenditures for reproductive health services help to capture the

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magnitude of household contributions to the flow of resources in the delivery of reproductive health services, thereby filling the gaps in reproductive health accounts with regard to out-of-pocket expenditures incurred by households for these conditions. In addition, when information on individual and household expenditures on health is connected to data on wealth status and costs of health services and commodities, it can answer important policy relevant questions on equity pertaining to poverty, gender, and life-course stages (13).

Therefore, the objective of this study is to examine the direct and indirect out of pocket expenditures on STIs and RTIs health care services along gender and life course.

Methods

Study Area

The study is conducted in the Butajira Demographic surveillance site (DSS). The Butajira DSS is a community based demographic surveillance site since 1987. The DSS is located in the Meskan and Mareko District of the Southern Nations Nationalities and People's (SNNP) Region of Ethiopia. It covers about 54,096 population distributed within ten randomly selected villages of which one is an urban village (14).

Data Collection

This study is part of the larger study that assessed OOPE on sexual and reproductive health and maternal health care during 2005-2007. A cross-sectional survey design was employed to collect household level data on reproductive health problems during one year prior to the survey. Moreover, utilization of sexual and reproductive health (SRH) care services and related expenditures are explored for the period of one month preceding the study.

The participants of the study were women and men of reproductive age who had SRH problems in the reference period. Prior to the actual survey, all the DSS households were screened to identify individuals who had SRH problems. Interview teams have conducted the screening 'house-to-house' with use of a short screening questionnaire for each household. After these individuals were identified, a selected number of them were revisited for administering the actual survey.

Three types of structured questionnaire were used to collect the data. The first one focuses on household characteristics which are responded by heads of households. This questionnaire mainly focuses on basic socio demographic characteristics of the households, household assets and utilities. Then members of the households that fulfill the inclusion criteria were interviewed from separate questionnaires exclusively prepared for men and women. This study focuses on members of the households who faced RTIs and STIs in the last one year prior to the survey. The women and men questionnaire contained questions about STI and RTI problems, utilization of health services, financial direct

and indirect costs, and sources finance for utilization of STIs and RTIs.

Information on household income/economic status was complemented with the determination of wealth ranking index that was generated from the household assets data collected from the survey. Possession of various household assets and accessibility to basic facilities reflects the socioeconomic and financial status of households and thus ability to pay for healthcare services (15, 16). Based on the data on the housing characteristics, ownership of household assets, types of housing materials, and accessibility to basic utilities; wealth index is constructed using the principal components analysis.

To construct the proxy wealth index first the frequencies and standard deviations of all household asset categories is identified by descriptive analysis. Each component of the respective asset categories is given factor scores between 0 and 1 according to their quality. Then the asset categories are assigned weight in such a way that assets which are unequally distributed among households are given more weight and vice versa; that is, variables with low standard deviation would carry a low weight and those with high standard deviation carry higher weight. Finally, weighted poverty scores are calculated. Using the poverty scores, the households are classified into wealth quintiles.

To complement the household survey, data on cost of services was collected from health service providers. A checklist is used to specify the type of services such as registration and laboratory tests and unit costs of the respective services in public and private healthcare facilities. Key informants from the sampled health care facilities are interviewed.

The data was entered in to SPSS software version 11 and analysis is also done on SPSS. Descriptive statistics is used to measure the utilization of RTI and STI services and direct and indirect expenditures made related to seeking care for these problems. The direct expenditures measured are payments made for consultation, laboratory tests, treatment and drugs while the indirect expenditures are payments for transportation, food, accommodation and other expenses made while seeking the health care services.

Inability to capture adequate number of People Living with HIV (PLHIV) made the study to focus on RTIs and STIs as opposed to the original objective. The study was intended to see the burden of OOPE on HIV/AIDS and other RH related problems on households. However, adequate number of PLHIV cannot be reached to represent the target population and analyze the costs. Most of the sampled population did not test and know their HIV status. Besides, some of them were not willing to respond to the questions related to HIV even if they knew their status. Thus the focus of the study remained on RTIs and STIs. There are also many missing data

which prompted dropping observation for some analyses which resulted in reduced actual sample size. The study utilized expenditure information one month prior to the study period that might lead to recall bias. Moreover, male respondents are found to be 5.73 times less than female respondent. As a result it is found to be difficult to make more rigor analysis comparative analysis. This is partly due to the time of data collection (day working hours) in which men will be at their workplace.

Sample Size Calculation

Determination of the minimum sample size was made with the assumption that 50% of the households will pay out-of-pocket for HIV/AIDS and reproductive health care in rural Ethiopia. Accordingly, by using a single population proportion and a 3% of margin of error with non-response rate of 5% a sample size of 1120 households was calculated for the study. The number of household per each village was obtained from the DSS data. Equal number (112) of households per each village (*kebele*) was selected by simple random sampling.

Health facilities are sampled purposively in such a way that all types of health facilities in the area would be captured. Accordingly, two public facilities, two low level private clinics and two medium level private clinics were selected.

Results

Socio-Demographic Characteristics

The survey included 1,015 households with a response rate of 90.6%. The total number of members in the households was 6164. From these households, 1003 women and 175 men who fulfilled the inclusion criteria were interviewed. The sex proportion among members of sampled households was almost equal with 48.8% male and 51.2% female. More than half of the household members (3468/56.2%) are below 15 years old. Four-hundred eighty one (7.8%) men and 786 (12.8) women were within age range of 15-29. Out of the total households, 909 (89.5%) were male headed and 106 (10.4%) were female headed. Nine-hundred thirty-five (87.4%) household heads - 876 (90.3%) men and 59 (6.1%) women - were married. The educational status of the household heads shows that larger proportion of men had formal education compared to women. Three-hundred ninety one (40.3%) of men household heads and 18 (1.9%) of women heads had formal education while the remaining heads of households are mainly illiterate. Cultivation in own or leased land was the major economic activity whereas non agricultural business/trade was the second main economic activity. About 68.9% of the households were engaged in agricultural activities. The results from the principal components analysis show that about (703/69.4%) of the households are in middle class and very small proportion of them (89/9%) in the rich quintile (Table 1).

Table 1: Socio demographic characteristics of households 2007GC, Butajira DSS.

Socio-demographic characteristics	Male No. (%)	Female No. (%)	Total No. (%)
Number of household members by age			
0 – 14	3009 (48.8)	3155 (51.2)	6164 (100)
15 – 29	1670 (27.1)	1798 (29.2)	3468 (56.2)
30 – 44	481 (7.8)	786 (12.8)	1267 (20.6)
45 – 59	585 (9.5)	474 (7.6)	1059 (17.2)
60+	209 (3.4)	71 (1.2)	280 (4.5)
Household heads	64 (1.0)	26 (0.004)	90 (1.5)
	909 (89.6)	106 (10.4)	1015 (100)
Education of household heads			
Illiterate	310 (32)	59 (6.1)	369 (38)
Some formal education	183 (18.9)	9 (0.009)	192 (19.8)
Formal education	391 (40.3)	18 (1.9)	409 (42.2)
Marital status of household heads			
Never married	3 (0.003)	2 (0.002)	5 (0.005)
Married	876 (90.3)	59 (6.1)	935 (96.4)
Widow/widowed	5 (0.005)	17 (1.8)	22 (2.3)
Divorced/separated/deserted	-	8 (0.008)	8 (0.008)
Economic activity			
Cultivation	658 (67.8)	10 (1.0)	668 (68.9)
Business	110 (11.3)	12 (1.2)	122 (12.6)
Formal job	52 (5.4)	-	52 (5.4)
Housework	5 (0.005)	55 (5.7)	60 (6.2)
Other	59 (6.1)	9 (0.009)	68 (7.0)
Income quintile			
Poor			223 (21.6)
Middle			703 (69.4)
Rich			89 (9.0)

Reproductive Health Problems

The major reproductive health problems reported are sexually transmitted infections (STIs) and reproductive tract infections (RTIs). Out of 1003 women of reproductive age 584 (58%) reported that they faced reproductive health disorders in the last one year prior to the survey. Among them, 196 (33.6%) faced RTI while 167 (28.6%) had STI. The remaining 221(37.8%) encountered both RTI and STI. Similarly, among the 175 men participants, 161 (92%) revealed that they faced RTI and/or STI problems during the reference period. Eighteen (11.2%) had RTI and 97 (60.2%) faced STI whereas 46 (28.6%) of them encountered both RTI and STI. The remaining reported other reproductive health illnesses such as HIV or testicular/prostate cancer.

Utilization of STI and RTI Services

Men respondents mainly sought health care services from private providers for RTI while most of them used public services for STI. Out of the total men who complained about RTI, 13 (8.1) and 17 (10.6%) sought consultation and laboratory tests from private provider respectively. Those who sought these services from public facilities were 13 (7.5%) and 10 (6.2%) respectively. Twenty (12.4%) purchased drugs from private facilities while 8 (5.6%) got drugs from public facilities. In contrast to RTI, most men with STI went to public providers to get health care. There is no difference in the number of patients who purchased drugs from public and private providers. About 80% of the respondent men revealed that the services are given on outpatient basis.

In contrast most women with either RTIs or STIs sought care mainly from public providers than private and traditional providers. Proportionally a good number of women with RTIs used public providers to get services of consultation 41(30.1%), laboratory tests 64 (47.1%), treatment 54 (39.7%). However, slightly more number of women with STIs purchased drugs from private providers, (50/48%) compared to public ones (41/39%). One hundred fourteen (83.8%) of the patients got treatment on outpatient basis whereas 15 (11%) of them were admitted; the remaining used both inpatient and outpatient services.

Expenditure on STI and RTI

About half of men who had RTI 30 (46.9%) revealed that they paid to get RH services. Similarly, 136 (32.6%) of women with RTI made payments for the services. The mean expenditure for laboratory tests and treatment by women with RTI was respectively Birr 17 and 58 at public and Birr 22 and 54 at private facilities. Men with RTI paid relatively low at public facilities.

Among the total respondents who faced STI, 104 (26.8%) women and 50 (35%) men incurred costs to get services. The average expenditure by men with STI was Birr 24 and 57 for laboratory investigations and treatment services at private facilities. Mean STI payments at point of service by men was relatively low compared to RTI payments. Women also made on average higher payments for RTI compared to STI. On average, drug expenditure shares largest proportion of the total expenditure for both RTI and STI (Table 2).

Table 2: Expenditure on RTI and STI by type of provider (in Birr), 2007GC, Butajira DSS.

Type of service and providers	Expenditure on RTIs				Expenditures on STIs																																																																																																																																																																														
	Women		Men		Women		Men																																																																																																																																																																												
	Number of utilizers	Mean expenditure	Number of utilizers	Mean expenditure	Number of utilizers	Mean expenditure	Number of utilizers	Mean expenditure																																																																																																																																																																											
Consultation									Private	21	7	13	7	18	8	11	25	Public	41	4	6	4	32	6	14	19	Traditional	2	15	-	-	-	-	-	-	Laboratory tests									Private	41	22	17	24	36	42	20	34	Public	64	17	10	2	41	13	23	26	Traditional	1	30	-	-	1	5	-	-	Treatment									Private	34	54	14	57	31	36	15	95	Public	54	58	9	47	33	32	18	26	Traditional	2	28	-	-	-	-	1	150	Drugs									Private	49	67	20	81	49	49	22	101	Public	64	60	8	46	41	59	22	43	Traditional	4	85	-	-	1	100	-	-	Transport	105	23	25	16	75	18	38	17	Accommodation and food	76	28	21	20	55	15	33	29	Other expenses	15	47	4	32	6	29	11	47	Total expenditure	136	149	30	165	102	116	50	182
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In addition to the direct out of pocket payments made at point of service, the transportation and accommodation expenditure of the patient and caregiver also constitute significant expenditure while seeking health care. In general, indirect expenditures related to RTI are higher compared to that of STI. Women made higher indirect payments related to RTI services while men reported higher indirect expenditures related to STI. The mean expenditure for transportation related to RTI was Birr 23 and 16 for women and men respectively. Accommodation and food expenditure related to STI was Birr 15 for women and Birr 29 for men (Table 2).

Even if it is difficult to compare the expenditures across income quintiles due to low observations (Table 3), in general it shows that the prevalence of both RTI and STI

is higher among the poorer men. It also appears that there is no significant difference in expenditure across income quintiles considering the difference in sample size. However, it seems that men are more likely to make higher average expenditures to get the services for RTI and STI in both poor and rich quintile.

The age category of male respondents shows that male with RTI and STIs were relatively older than women. About 35% of them were of age 31-40 while 30% are 21 – 30 years old. The remaining (35%) were younger than 20 years or older than 40. Examination of expenditures across age groups shows that, women in age group 21-30 incurred relatively more out of pocket payments. In case of men the expenditure is high for the age group 15-20 and decreases beyond 40 years of age (Table 4).

Table 3: Expenditure on RTI and STI across income quintiles, Butajira DSS, 2007

Type of care	Income quintiles							
	Poor		Medium		Rich		Total	
	No. (%)	Mean exp.	No. (%)	Mean exp.	No. (%)	Mean exp.	No. (%)	Mean exp.
RTI								
Women	60 (41)	123	37 (30)	199	33 (26)	151	136 (33)	149
Men	14 (52)	153	11 (50)	137	4 (33)	310	30 (47)	165
Total	74 (43)	129	48 (33)	185	37 (27)	168	166 (35)	152
STI								
Women	37 (26)	121	27 (22)	134	33 (32)	103	102 (26)	116
Men	17 (30)	130	17 (39)	107	16 (41)	316	50 (35)	182
Total	54 (27)	124	44 (26)	123	49 (35)	172	152 (29)	137
No. of women with RTI	145		123		126		417	
No. of women with STI	142		125		102		388	
No of men with RTI	27		22		12		64	
No. of men with STI	56		44		39		143	

Table 4: Source of Finance for RTI and STI care and total expenditure across age, Butajira DSS, 2007.

Source of finance	Women		Men	
	STI	RTI	STI	RTI
Out of regular Income	194 (55.9%)	208 (50.2%)	52 (37.7%)	37 (58.7%)
Own savings	30 (8.6%)	55 (13.2%)	9 (6.5%)	5 (7.9%)
Borrowings from relatives & friends	95 (27.3%)	94 (22.7%)	43 (31.2%)	15 (23.8%)
Borrowings from money lenders	7 (2%)	6 (1.4%)	5 (3.6%)	1 (1.6%)
Distress sale of articles	21 (6%)	46 (11.1%)	29 (21%)	22 (34.9%)
Others	-	5 (1.2%)	-	-
Total	347	414	138	63
Age group	Mean expenditure			
Aged 15 – 20	168.5000		172.0000	
Age of 21 – 30	216.0000		86.4500	
Age of 31 -40	201.4500		111.5000	
Aged 41 and above	97.2500		94.8500	

Table 4 shows the source of finance for the RTI and STI problems. Among those women who sought care for STI, about half paid from their regular income and one quarter of them borrowed from their relatives and friends. The remaining used their own saving and local money lender to pay for the costs. Similarly among the women who sought care for RTI half of them used their regular income, about 20 percent of them borrowed from their friends, 13 percent used their own saving, and 10 percent of them sold their assets. The proportions of sources of finance for STI and RTI were also the same for men.

OOPE Estimation from Health Care Providers

To complement the household survey providers are asked on the unit costs they charge to provide services for reproductive health services.

Clients are expected to pay for STIs and RTI at public health facilities. However there is a fee waiver system in public facilities which entitles the poorest of the poor to get services free of charge. In case of private providers, all patients are required to pay for any type of services. According to the key informants, there had been at least

two cases of major or minor surgery due to STI or RTI per week. The associated payments for such services are significant unless the clients are eligible for fee waiver.

Unit prices of consultation, laboratory test, treatment and drug are lower at public facilities compared to that of private providers. Cost of consultation in the public health facilities Birr 2.00 in health center and Birr 5.00 at the hospital. Cost of consultation for private providers ranges from Birr 5.00 to Birr 10.00. The costs of laboratory tests differ among the different tests. The laboratory tests include blood film, blood sugar level, urine analysis, pregnancy test, blood group, sperm analysis, etc. The minimum and maximum costs for laboratory tests in public facilities were Birr 3.00 and Birr 5.00 respectively. The cost of laboratory tests in the private providers ranges between Birr 5.00 and Birr 30.00. For inpatient care, the admission cost per day at the public hospital was Birr 6.00 and the cost for operation was Birr 100.00. The unit prices for admission and operation is fixed but the treatment and drug price varies from patient to patient based on the prescription. Treatment and drug expenditure share a substantial proportion of all expenditure for the patient. The total cost incurred by patients who were operated would be at least Birr 1500.00 for major operation. Inpatient care is not provided by private providers since they are of lower level.

Discussion

Women respondent were about 5.73 times more than male respondents. However, proportionally more men (92%) complained about their RTI and STIs compared to the women (58%) participants. This may partly be due to the limitation of the study regarding data collection. The data was collected during day time at which men were at their work place. Those men who remained in the home may be those with health problems and unable to go to work. Women on the contrary may consider reproductive health problem as normal since they face it frequently due to pregnancy related disorder. On the other hand, women are usually shy to talk about their reproductive health problem especially when it is not directly related to pregnancy and delivery.

A similar study in Bangladesh found that women face many problems related to reproductive health and they have to visit health care providers more frequently. The frequent visit of health care providers has many indirect costs even if the direct costs are negligible (17). Thus women are bearing more cost burden on reproductive health services than men as a result of frequent RH problems. Another study also revealed that women and adolescents are mostly affected by SRH. However they remain disempowered and do not seek care on time (18). Thus expenditures would be even higher since women usually delay to seek care particularly because they do not readily have the finances. On the contrary, this study

found that men made relatively larger direct and indirect expenditure for their reproductive health problems compared to women. One of the reasons for this is the fact that they have the means. Or it may be due to the low sample size in case of men respondents. Thus this may further be explored with more rigor methods of data collection to capture comparable proportion of men and women.

Lack of financial control also limits women access to RH services in general as indicated by a study conducted in Namibia, Kenya, and India (19). This study also found large majority of women being housewives and engaged only on house work which does not bring them income. Thus they depend on their spouses to pay their health expenditures. For instance the maximum expenditures made at private health facilities are made by men implying men will go to private providers and pay the expenditures. Women may also be shy to tell their problems on time and wait till it becomes severe which makes them bear intangible costs of pain. This will affect the wellbeing of their family and their children. Moreover, opportunity cost of time due to more waiting time discourages them from going to healthcare providers on time.

There is no significant difference in average expenditure on RTI and STI across the wealth quintile. This may be due to non comparable number of respondents from each wealth quintiles. The study also show that the pattern of out of pocket expenditure higher up to 40 years of age and decreases afterwards. The reason may be young men are sexually more active compared to women in the area and they make unsafe sex which makes them more vulnerable. Moreover, polygamy is common in the area which also increases the exposure to RTI and STIs. On the other hand, women face more complications related to frequent pregnancies. As a result they encounter problem starting from younger age and the incidence for the disorders goes into adult age. Thus the expenditures increase as they age and start to decrease at age of 40.

In addition to direct out of pocket payments, households make indirect payments related to health care seeking which are significant. These indirect expenditures are directly related to the number of visits made at health care facilities and the duration of the health problems. The results of this study show that indirect payments for RTI are higher than that of STI. This is partly because participants with RTI were relatively more in number than those with STI. Similarly, women with RTI and men with STI made higher indirect payments and this is because the participants in either category were more than that of their counterparts. Though these indirect expenditures are significant and pose severe risks of impoverishment, they remain to be overlooked (20) and need to be considered in health expenditure related studies.

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