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Magnitude and Factors Affecting Out-of-Pocket Medical Expenditure among Outpatients in ST.Paul Hospital Millennium College, Addis Ababa, Ethiopia

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Abstract: The Objectives of the study is to assess the magnitude and factor that affect out-of pocket medical expenditure among outpatients department in St Paul's hospital Millennium College, Addis Ababa, Ethiopia. An Institution-based cross-sectional study in quantitative method was conducted among outpatient services. The required sample size is determined by single population and double population proportion formula. The final sample size was 422. A descriptive statistical analysis, binary and multivariable logistic regression model was used to describe the findings. Gender, marital status, educational status, occupation, family size, total income was statistically associated with TOOPME at Sig< 0.2. Statistically associated with TOOPME In multivariate analysis were marital status (B=.197; CI 95%190.2-585; sig .000), Occupation status (B=-.174; CI 95%-180—39.6; sig .002), family size (B=.229; CI 95%58-150; sig .000), and total income (B=.305; CI 95%10Table: 1 9-227; sig .000). The financing system of health care should be based on the principle of cost sharing so that there will be resource pooling among the poor and the rich. The financing mechanism should also move into prepayment schemes or insurance to protect the poor from unanticipated health care costs.

Keywords: Out-of-Pocket Expenditure, Catastrophic Health Expenditures, Health Care Seekers

1. Introduction

Out-of-Pocket medical expenditure (OOPME) is defined as the direct outlay by households including gratitude's and in kind payments to health practitioners and pharmaceutical suppliers and the purchases of goods and services whose main intent is to contribute to the restoration on the enhancement of the health status of individuals and population groups [1]. Researchers at the World Health Organization (WHO) propose that health spending becomes catastrophic when out-of-pocket health spending exceeds 15-20 % of the total health expenditure level [2]. The level of OOP and their distribution have great impact on overall health system performance. When a system relies heavily on OOP, the payments required to access health care in relation to income can be high enough to result in financial catastrophe for individuals or households [3].

Due to high health expenditures, each year nearly 44 million households worldwide have to pay catastrophic healthcare expenditures. Almost 25 million of households or, in other words more than 100 million people, are pushed below the poverty line due to catastrophic expenditures [4]. Comparing OOP expenditure in the public and private sectors, "cashless" hospitalizations were more common in public than in private facilities and those going to the private sector were more likely to incur OOP expenditure [5].

Research has shown important differentials in financial access between men and women. For example, "women incur more out-of pocket expenditure than men", "paying for health care and other reproductive health services places a high financial burden on women" and "out-of-pocket expenditure may prevent more women than men from utilizing essential health services" [2]. According to the World Health Survey 27% of households in Ethiopia faced

financial catastrophe— defined as OOP payments of more than 150% of household's consumption expenditure [6].

High OOP health expenditures have a serious impact on vulnerable people who subsequently experience debt, income loss and catastrophic health expenditures [7]. Rapid population ageing has intensified concerns about the extent to which geriatric health spending can become catastrophic, Reproductive health (RH) expenditure constituted more than 10-12% of the total expenditure on health. Out-of-pocket payment for RH was minimal, and government is the key source of RH spending (5). However, RH expenditures in 2007/2008 in Ethiopia was about 13% (ETB 1,411,728,484) of the national health expenditure. The per capita expenditure for the relevant group, women age 15-49 years was only US$8. The government managed the largest share (45%) of RH expenditures, the private sector managed 33% of RH resources, and the rest of the world managed 22 % of RH resources [8].

Furthermore, later-life health studies on the Nigerian elderly suggest that elderly groups experience a decline in physical and mental capabilities unique to old age, which increases dependence for health care finance [2]. As it has been said, the main factor for women discouraged to utilize RH services is related to getting money for treatment, showing that expenditure is one of the main factors and particularly a concern since private expenses are paid OOP [8]. Knowledge about the magnitude and Factors Affecting OOPME among outpatient service is vital from a health policy perspective, to inform the design of interventions or system changes that ensure accessible and financially protective health services to vulnerable people. Therefore assessing financial burden especially on female and elderly people done in St Paul's hospital millennium college is useful for decision maker to create strategy on financial protection for these groups of population.

2. Methods

2.1. Study Design

An Institution-based cross-sectional study in quantitative method was conducted among outpatient services, in St Paul's hospital millennium college.

2.2. Study Area

The study was conducted in Addis Ababa, which is the capital city of Ethiopia and most of the federal government are located in here; additionally health service implemented and actively practice. The St Paul's hospital millennium college is the second largest hospital in Ethiopia; it currently has 310 beds with an annually average of 200,000 patient and catchment population of more than 5 million. The study will be based on primary and secondary data conducted on outpatient in St Paul's hospital millennium college. It will implement from March 1st, 2018.

2.3. Study Population and Sample Size

Adult Patients who was attending an outpatient services, in St Paul's hospital millennium college fromMarch1stto 30and fulfill the inclusion criteria. The required sample size for the first and second objectives of this study was determined by single population and double population proportion formula respectively. The sample size was determined by using single proportion formula with the following assumptions; Confidence level (CI) -95, Proportion (P) -50 % Marginal of error (d) - 5% , Sample size is computed based on single proportion formula assuming p = q = 0.5 since there was no research conducted on this topic in Ethiopia

$$z_{\frac{\alpha}{2}}^2 \frac{p(1-p)}{d^2}, n = 1.96^2 \frac{0.50(0.50)}{0.05^2} = 384.16$$

So with adjustment for non-response (10% contingency), n= (384+38), the final sample size was 422.

2.4. Sampling Procedure

Three departments were selected purposefully which are medical, surgical and gynaecology outpatient (OPD). The study participant was identified by systematic random sampling method. Depending on sampling interval patients coming to OPD was enrolled in the study until the required sample size was obtained from selected OPD.

2.5. Data Collection Tools and Procedures

Data was collected by interviewed using structured questionnaire. The questionnaire consists of socio-demographic variables (age, sex, marital status, residence, monthly income, educational status and occupation) and contained questions that were elicit information on magnitude and factors affecting OOPME out patients. The questionnaire was first be prepared in English and translated to Amharic, since patients may not able to understand English questionnaires. Pretesting of the questionnaire was done internally at St Paul hospital. The pretesting was done to assess the applicability of the questionnaire tool internally. Orientation was given for study participants on the tools to be used and purpose of the study.

2.6. Data Quality Control

The quality of data was assured by proper designing and pre-testing of the questionnaires on selected patient in St Paul hospital. Every time after data collection, questionnaires was reviewed and checked for completeness by the principal investigator. Moreover, the collected data was clean, coded and entered to EPI Info version7.0.

2.7. Data Analysis

Data was exported to SPSS version 20 statistical package, and then analyzed. A descriptive statistical analysis was used to describe the findings. Descriptive summary using frequencies, percentages, bar chart, central tendency was used for socio-demographic and bar chart for relevant variables. Data was compiled and analyzed using bi-variate multiple linear regression models. Variables, which have p-value less than 0.2 bi-variate analyses, was taken in to multivariable analysis. A p-value <0.05 were considered to

declare a statistically significant association with dependent and selected independent variables. The results was presented in text and tables based on the type of data

3. Results

3.1. Socio Demographic Character

Total population of the respondents was 422 and results indicated that 35.2% of the respondents were male whereas 64% of the respondents were female. Majority of the respondents stated that they were between 31-45 years old and 16.5% and 30.5% of the total respondents stated that they were between 25-30 years and 46-60 years old respectively. Whereas 15.6% respondents were above the age of 60. The study also sought to collect the level of education of respondents. The results indicated that 9% of the respondents had higher education &above followed by 48% who were Secondary level. 20% of the respondents were in primary level where as 11% of respondents were literate and illiterate respectively. See table: 1 below

Table 1. *Socio demographic Character.*

		Frequency	Percent
Gender	Male	149	35.2
	Female	273	64.5
Age	<30	70	16.5
	31-45	147	34.8
	46-60	129	30.5
	>60	66	15.6
Education	Illiterate	47	11.1
	Literate	47	11.1
	Primary School	85	20.1
	Secondary School	203	48.0
T income	higher education & above	38	9.0
	<2000	69	16.3
	2001-4000	147	34.8
	4001-6000	161	38.1
	> 6000	45	10.6

3.2. Magnitude of Total Out-of Pocket Medical Expenditure of Respondents

The study collected the monthly income earned by 422 respondents. It was established from the descriptive of Total statistics results that maximum and minimum Total Out-of Pocket medical expenditure of the respondents was 7966Birr and 37 Birr respectively. Average monthly Total Out-of Pocket medical expenditure by the respondents was 610 Birr with a standard deviation of 1043 Birr. See Table 2 below.

Table 2. *Magnitude of Total Out-of Pocket medical expenditure.*

Mean	1047.73
Median	610.00
Std. Deviation	1043.82
Minimum	37.00
Maximum	7966.00

3.3. Gender Status of Respondents Against TOOPME

Gender status against Total Out-of Pocket medical expenditure revealed that the highest number of female respondents during one month of study session were belonged to 500-1000Birr (37.4%), and the lowest respondent were belong to 1501-2000Birr spending group (5.5%), On the other hand, the highest number of male respondents against Total Out-of Pocket medical expenditure were belonged to less than 500 Birr spending group (33.6) and the lowest respondents were belonged to above 2000 Birr spending group (8.7%). See Figure 2 below.

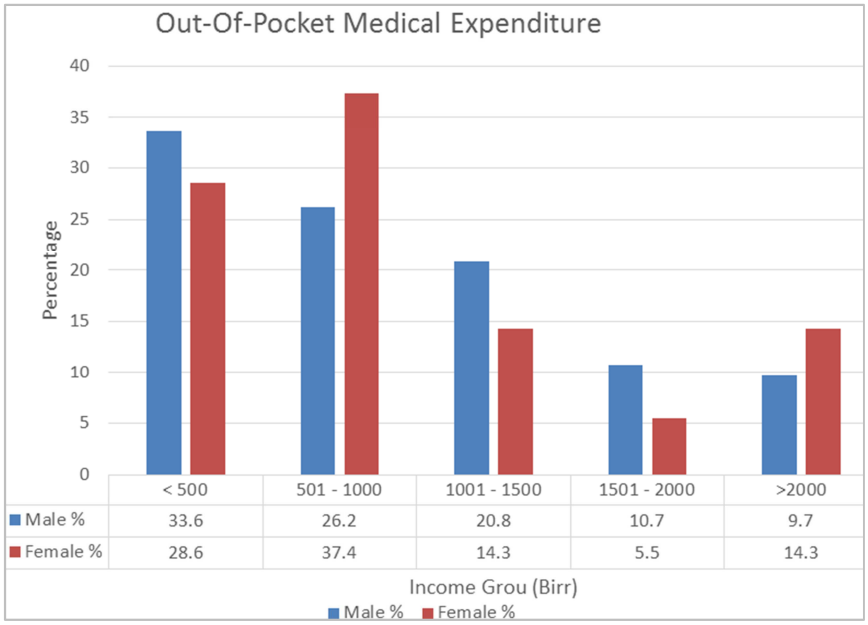

Figure 1. *Gender status of respondents against TOOPME.*

3.4. TOOPME Versus Income Group

Among total income group against TOOPME, 24% and 11.5% of respondents that belonged to less than 2000 Birr house hold income group spend less than 500 Birr and greater than 2000 Birr respectively during one month of study session. Similarly 39.8% and 25 % of respondents that belonged to 2001 - 4000 Birr household income group spend less than 500 Birr and greater than 2000 Birr during one month of study session respectively. See Figure 2 and 3 below.

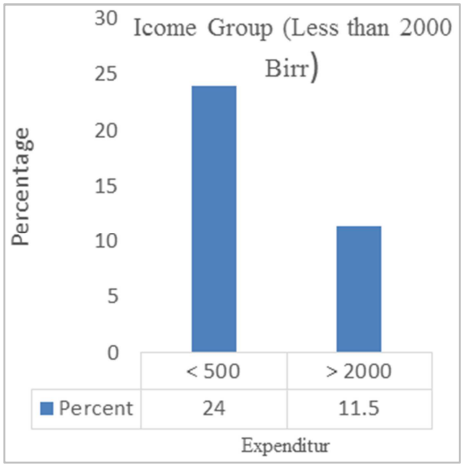

Figure 2. *Relationships between TOOPME and Income Group (less than 2000 birr).*

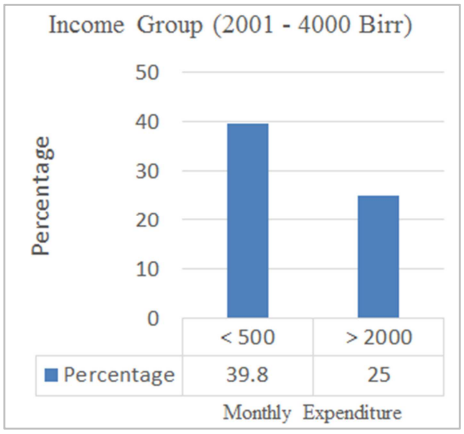

Figure 3. *Relationships between TOOPME and Income Group (20001 - 4000 birr).*

Regarding house hold income group, 29.7% and 32.7% of respondents that belonged to 40001 – 6000 birr income spend less than 500 Birr and greater than 2000 Birr respectively during one month of study session. Similarly 6.3 % and 38 % of respondents that belonged to greater than 6000 Birr income group spend less than 500 Birr and greater than 2000 Birr during one month of study session for health care respectively. See Figure 4 and 5 below.

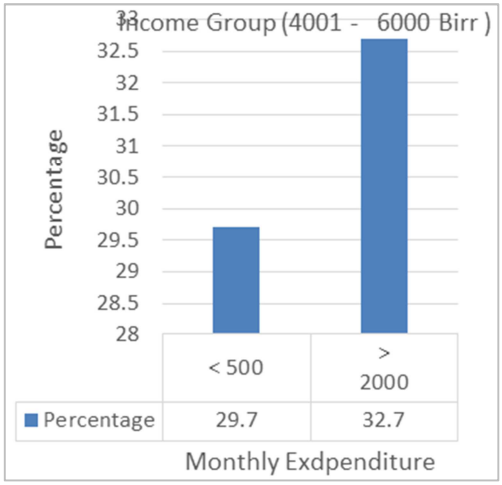

Figure 4. *Relationships between TOOPME and Income Group (4001 - 6000 birr).*

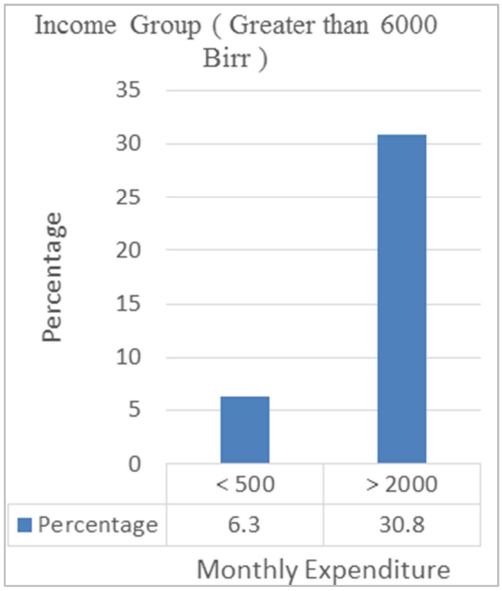

Figure 5. *Relationships between TOOPME and Income Group (Greater than 6000 birr).*

3.5. Factors Associated with TOOPME

In order to identify the associated factors with gender, marital status, educational status, occupation, family size, total income were statistically associated with TOOPME at Sig< 0.2 in other variables age and resident had Sig greater than 0.2 , So didn't perform in multivariate analysis. In multivariate analysis were statistically associated with TOOPME marital status (B=.197; CI 95%190.2-585; sig .000), occupation status (B=-.174; CI 95%-180—39.6; sig .002), family size (B=.229; CI 95%58-150; sig .000), total income (B=..305; CI 95%109-227; sig .000). However gender and education were statistically associated with TOOPME. See Figure 7.3 below

Table 3. *Bi-viriate and Multivariate analysis.*

Model		Standardized Coefficients B	sig	Un Standardized Coefficients	Standardized Coefficients B	Sig.	95.0% Confidence Interval for B	
				Beta			Lower Bound	Upper Bound
1	(Constant)			-607.561		.147	-1429.958	214.836
	Gender	.066	.17	57.603	.026	.591	-153.075	268.281
	Marital Status	.17	.001	387.738	.197	.000	190.218	585.258
	Education	-1.59	.001	-17.787	-.019	.722	-115.996	80.421
	Occupation	-0.64	..19	-110.005	-.174	.002	-180.372	-39.637
	Family Size	.26	.00	103.959	.229	.000	58.045	149.873
	Total income	.04	.004	.168	.305	.000	.109	.227

4. Discussion

The main focus of this study was to examine the financial burden of OOP among St Paul hospital OPD health service seekers. In this research the most respondents were females, middle age and middle level education groups. Globally the total amount of expenditure on health is increasing as countries are becoming richer [9]. For There is increasing evidence that out-of-pocket expenditures act as a financial barrier to accessing health care, and are a source of catastrophic expenditures and impoverishment [10]. Now a days the role of private health care providers has sparked controversial debates in low-and middle income countries [11]. OOP payments in low income countries are very regressive as determined by in other settings [12]. Accordingly Individuals with comparatively low income face a higher burden of OOP payments than individuals with higher income [13]. Based on the results of household's economic status, households with better financial status, face catastrophic health expenditures less than households with worse economic status. The findings of the present study are consistent with the study done in Iran [4]. Similarly it is also supported by the study done in Bangladesh that showed burden of OOP payments were highest among the poor than high income group consumers. Accordingly the lowest income group had lesser Out-of-pocket health expenditure for health services compared with consumers within the higher income group. It has some similarities from a study done in Tanzania in that those with better economic resources, education; enhanced awareness has a tendency towards the need for health care. On the contrary, the poor and those with low literacy level consumers were less likely to use health services [6].

Evidences suggest that Out of pocket payments are the common way of expenditure for health care services in developing countries. These payments have differential impact with respect to health outcomes, health service utilization, and financial burden based on socio-economic status of the population. Under utilization of health services especially by the poor and disadvantaged remains a chronic problem in developing countries even though there is a huge unmet need for health care [14]. Usually out of pocket expenditures result in financial difficulties by households. Moreover the part or all of the costs are borne by other body such as insurance and it will not be catastrophic [8]. However, in this study, all of the expenditures were paid out of pocket and the households are found the poorest quintile. On the other hand, in the absence of financial protection for the poor, small costs are financially disastrous because it will take large proportion of their income. Qualitative findings also indicate that health-seeking behavior differed between men and women [15].

The present study is also supported by Various studies that indicates demographic factors like age, sex, marital status, place of residence, and family wealth influence higher OOP health expenditures [16]. According to the present study, Greater percentage of females had higher Out-of-pocket health expenditures compared with male respondents

5. Conclusion

The distribution of out-of-pocket payments across the wealth quintiles shows that households having better socioeconomic status pay more than the low quintiles. It indicates low income group had low quality and quality of health services. In gender status females had high burden of OOP compared to male respondent. Clearly, more attention is needed to reduce financial burden on households among this group. There for extending the national health insurance scheme, expanding the fee waiver system, and maintaining the general subsidy at public health facilities provide coverage for low income group and females people through the proposed special health fund, to encourage enrolment and reduce the risk of catastrophic spending.

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Conflicts of Interest

The author(s) declare that they have no competing interests

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