International Journal of Public Health Science (IJPHS)
Vol.4, No.4, December 2015, pp. 332~337
ISSN: 2252-8806

Magnitude of Out of Pocket Health Expenditures and Associated Factors among Civil Servants

Mekuanenet Geremew[1], Molla Gedefaw[2], Girmay Tsegay[1], Getachew Mullu Kassa[3]
[1]School of public Health, College of Medicine and Health Sciences, DebreMarkos University, DebreMarkos, Ethiopia
[2] GAMBY College of Medical Sciences, Bahir Dar, Ethiopia
[3]Department of Midwifery, College of Medicine and Health Sciences, DebreMarkos University, DebreMarkos, Ethiopia

Article Info

Article history:

Received Oct 28, 2015
Revised Nov 26, 2015
Accepted Nov 28, 2015

Keyword:

Out of pocket money
Health insurance
Civil servants
Ethiopia

ABSTRACT

In Ethiopia, as other developing countries, public health care is provided at nominally low prices and free to those that does not afford to pay. But the health care consumer population is still to make considerable amount of out-of-pocket health expenditure for various reasons. A cross sectional quantitative study from January to May 2013 was done. Study population was civil servants in DebreMarkos town. A total of 467study participants were selected by using simple random sampling method. The collected data were entered into a computer by using Epi-Data version 3.1 and analysis was performed by using SPSS version 16 for windows. Possible associations between out of pocket health expenditure and its predictors were analyzed by using both bivariate and multivariate analysis. The mean age of the study participants were 41 years. Majorities were between 25 and 44 years of age, 258 (55.2%). The level of education among the study participants indicated that most 380 (81.4%) were graduates of higher education (HE) and majority were Orthodox Christian which accounted 446 (95.5%) followed by Muslims 13 (2.8%). To put it briefly, the study identified that the median of out of pocket health care expenditure accounted 8.26% of total household income. Health status of the household (with or without chronic illness), debt on any of the household, house on construction owned by any household member, educational fee for at least one member of the household and predominantly used health institution were the associated factors that have significant impact on household out of pocket health expenditure.

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Corresponding Author:

Getachew Mullu Kassa,
Departement of Midwifery,
DebreMarkos University,
Ethiopia.
Email: gechm2005@gmail.com

1. INTRODUCTION

Out-of-pocket health payments are expenditures borne directly by a patient where insurance does not cover the full cost of the health good or service. These include cost-sharing, self-medication and other expenditure paid directly by private households [1]. In Ethiopia, as other developing countries, public health care is provided at nominally low prices and free to those that cannot afford to pay [2]. But the health care consumer population is still to make considerable amount of out-of-pocket health expenditure (OOPE) for various reasons [3].

For instance, according to National Health account of Ethiopia, the magnitude of out of pocket health expenditure reaches about 40% of the total health expenditure. Out-of-pocket health payments have substantial negative side effects. They may lead to impoverishment and further hardship. The requirement of Out-of-pocket health payments is particularly hard on the poor, whose illness will either remain untreated or

force patients into deeper poverty. The poor may not seek medical care and, as a result, remain trapped in the vicious circle of illness and poverty [2]. However, out-of-pocket health expenditure remains poorly visible, and it is in need of survey.

Moreover, the government of Ethiopia plans to introduce social health insurance for formal sector employees. The Ethiopian government is in the process of initiating health insurance schemes: social health insurance (SHI) for the formal sector and community-based health insurance (CBHI) for citizens in the informal and agriculture sectors. The necessary legal frameworks are already in place for the piloting of CBHI schemes as well as for initiation of the SHI program. The SHI agency has already been established and is being staffed with required professionals. SHI was expected to be operational for civil servants beginning in July 2012. It will gradually expand to cover all formal sector employees. Since 2011, CBHI schemes have been piloted in 13 districts in Amhara, Oromia, SNNP, and Tigray Regional States [3]. Therefore, producing data related to the magnitude of out of pocket health expenditure among formal sector employees in DebreMarkos Town were very timely.

2. RESEARCH METHOD

2.1. Study design

A cross-sectional survey was conducted to assess the magnitude of out of pocket expenditure and associated factors.

2.2. Study area

This study was conducted during January-May 2013 in DebreMarkos Town. DebreMarkos is the capital of East Gojjam Administrative Zone; located in the North West of Addis Abeba at a distance of 300 kms and 265 kmsBahir Dar, respectively. With regard to the population of the town it is estimated to be 107684 of which 57791 are females and 49893 are males. From population figure mentioned above 42743 females and 35843 male populations said to have been the young population at the productive age. [4].

2.3. Study population and sample size determination

Study population was formal sector employees in DebreMarkos town and we used simple random technique to selected study participants. Sample size is determined using the formula for single population proportion. Because there is no study conducted in DebreMarkos town and in similar setup on this topic, a proportion of 50% is taken based on this the sample size is 467.

2.4. Data collection procedures

The data was collected from participants' by the means of semi-structured questionnaire. A total of 467 respondents were covered during the survey. This survey collects health care expenditure data for various categories of treatment like hospitalized care, outpatient care, birth delivery, chronic illness and all health expenditure paid directly by households of formal sector employees in the study area and period. In this study 10 adequately trained data collectors and two supervisors were involved in the data collection process. The data collectors were graduates of secondary school and who could write and fluently speak the local language. Supervisors and the principal investigator check on daily basis for the completeness, accuracy, and clarity of the questionnaire. Any error, ambiguity, incompleteness, or otherwise encountered was addressed on the following day before starting the next day activities.

2.5. Data quality and analysis

The questionnaire was carefully translated into Amharic by experts, with great emphasis given to local vocabularies. The questionnaire is also being pre-tested on private organizations. The collected data was entered into a computer by using Epi-Data version 3.1 and analyzed using SPSS version 16 for windows. Possible association between out of pocket health expenditure and its predictors are analyzed by both bivariate and multivariate analysis. The cut off point for statistical significance is $P< 0.05$.

2.6. Ethical considerations

Ethical clearance was obtained from DebreMarkos University; further permission letter also secured from each formal sector institutions in DebreMarkos town. Informed consent was also obtained from each study participants. Privacy and confidentiality are also maintained.

3. RESULTS AND ANALYSIS

3.1. Socio demographic characteristics

A total of 467 study participants responded to this study with 5% non-response rate. The mean age of the study participants was 41 years, SD (±11.13). The age of study participants ranged between 18 and 65. Majorities were in between 25 and 44, 258 (55.2%). most 380 (81.4%) are graduates of higher education and majority are Orthodox Christian which accounts 446 (95.5%),

In the study family size varies in between 1 and 12 and the dominant number 263 (56.3%) are in the category of family size which is less than or equal to 4, the remaining 204 (43.7) where in the category of family size which is >4 monthly income of the study households varies from 300 to 4000, with a mean of 1736.74 SD (± 646.19). Majority of the study participants 357(76%) earned in between 1000-2500 Birr (Table 1)

Table 1. Socio-Demographic Characteristics of study participants, DebreMarkos, 2013

Variable	Category	No	Percent
Age	18-24	39	8.4
	25-44	258	55.2
	45-65	170	36.4
	Total	467	100
Religion	Orthodox Christian	446	95.5
	Muslim	13	2.8
	Protestant Christian	7	1.5
	Catholic	1	0.2
Sex	Male	300	64.3
Ethnicity	Amhara	456	97.6
	Tigre	4	0.9
	Oromo	5	1.1
	Guraghe	2	0.4
Family size	≤ 4	263	56.3
	>4	204	43.7
Education	Higher Education	380	81.4
	10-12	64	13.7
	Complete primary Educ.	11	2.4
	Incomplete primary Educ.	8	1.7
	Total	467	100
Monthly Income	<651	22	4.7
	651-999.999	18	3.9
	1000-2500	357	76
	>2500	70	15

3.2. Additional attributes of study participants

Information about health status of the civil servants visited health institution at least one member of the household had chronic illness, debt (presence of any household member who had any debt), paid educational fee at least for one member of the household, predominantly used health institution (private or public), had a house(s) under construction owned by any member of the household and mount of annual average health care expenditure.

In study households where there were at least one member of the household with chronic illness accounted for 457 (97.9%) of the participants. Study households who were paying educational fee for at least one member of the household accounted for 451(96.9%) Study participants who predominantly used private health institution accounted for 455 (97.4%) and who predominantly used public health care institutions accounted for 12 (2.6%). Study households with at least one member of the household on the process of building any house accounted for 114 (24.4%) and those who were not on this process accounted 353 (75.6%) of the participants.

Study households whose annual average health care expenditure less than 3% of their income were accounted 118 (25.3%), whose expenditure in between 3-6% were accounted 86 (18.4%), 7-12% accounted 75 (16.1%) and those who spend ≥12% their income accounts 188 (40.3%).Households whose source of fund for out of pocket health expenditure where from households income accounts 385 (82.4%), those there fund

where from household saving accounts 28 (6%), those from selling of family asset accounts 10 (2.1%), those from aid accounts 4 (0.9%) and those there expenditure where from loan accounts 40 (8.6%).

Table 2. Factors associated with out of pocket health care expenditure. Debre Marks, 2013

Variable/Question	Category	Out Of Pocket Health Expenditure: Average annual health expenditure <3%	≥3%	AOR	COR	(95%CI) AOR
Income	< 651 Birr	**2**	**20**	**10.34**	**0.51**	**(1.82,58.78)**
	651-999.999 Birr	**1**	**17**	**11.01**		**(1.39,86.8)**
	1000-2500 Birr	**89**	**268**	**3.14**		**(1.96,5.03)**
	>2500 Birr	**26**	**44**	**1.0**	**1.0**	
Presence of chronic illness	Yes	**110**	**347**	**6.05**	**0.079**	**(1.08,33.89)**
	NO	**8**	**2**	1.0	**1.0**	
Predominantly used health institution	Private	**108**	**347**	**11.72**	**0.062**	**(2.2,62.28)**
	Public	**10**	**2**	1.0	1.0	
Educational Fee	Yes	110	**341**	3.39	0.323	(1.1,10.43)
	No	8	**8**	1.0	1.0	
Debt	Yes	**105**	**336**	**2.98**	**3.2**	**(1.12,7.96)**
	No	**12**	**12**	**1.0**	**1.0**	

3.3. Factors associated with out of pocket health care expenditure

To find out factors associated with out of pocket health care expenditure bivariate and multivariate analysis was done considering socio demographic variables, health status of the household (with or without chronic illness), debt on any of the household, house on construction owned by any household member, educational fee for at least one member of the household and predominantly used health institution (private or public) as an independent variable and average out of pocket health care expenditure as a dependent variable.

Income: The multivariate analysis showed that income of the household, health status of the household, predominantly used health institution, educational fee and debt found to have statistically significant association with out of pocket health expenditure. Respondents whose income was <651 Birr where 10.34 times more likely to spend for health care than those whose income greater than 2500 AOR=10.34, 95% CI (1.82, 58.78) Respondents whose income was in the range of Birr 651 to 999.99 where 11.01 times more likely to spend for their health care than those whose income where greater than Birr greater than 2500 on AOR= 11.01, 95%CI (1.39, 86.5).

Respondents whose income was in the range of Birr 1000 to 2500 where 3.14 times more likely to spend for their household health care than those whose income was greater than Birr 2500 on AOR= 3.14, 95%CI, (1.96, 5.03).

Health status: In study household who have at least one member with chronic illness where 6.04 times more likely to spend for their household health care than those who did not have chronic illness AOR= 6.04, 95% CI (1.08, 33.89).

Predominately used health care institution: Study households who were predominantly visited private health care institutions where 11.73 times more likely to spend for their household health care than those who predominantly used public health care institutions on AOR= 11.73, 95% CI (2.21, 62.28).

Educational fee: Study households who were paying for education for at least one household member where 3.39 times more likely to spend for their household health care than those who did not pay any educational fee on AOR = 3.39, 95% CI (1.1, 10.4).

Debt: Study households who had any debt to be paid where 2.98 times more likely to spend for their household health care than those who did not have any debt on AOR= 2.98, 95% CI (1.12, 7.98).

Sources of fund for out of pocket health expenditure: Based on the data, study participants spent all these health care expenditures from different sources like from cash revenue (CR) accounts 83%, from household saving (HS) 6%, from sales of family asset like jewels, house, car, etc. accounts 2%, from loan (L) 9% and from gift (G) 1% (Figure 1).

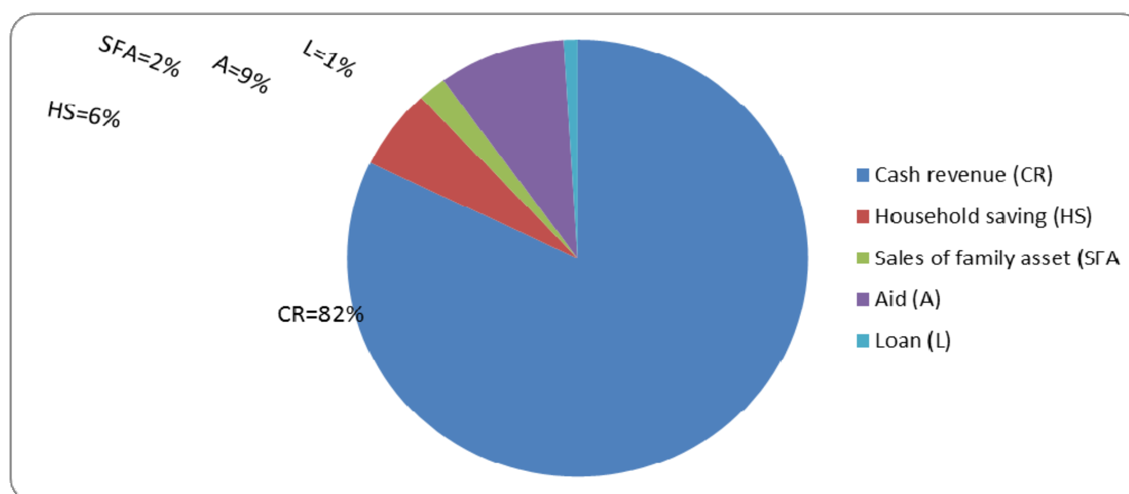

Figure 1. Source of fund for out of pocket health expenditure of study participants, DebreMarkos, 2013

3.4. Discussion

The median of out of pocket health expenditure of this study was about 8.26% of total household income with [(IQR), 2.98, 22.71)]. The government of Ethiopia wants to cover formal sector employees with social health insurance. The amount of money proposed to be premium for this insurance is 3% of monthly salary (12). This means the magnitude of out of pocket expenditure in this study is more than two times of the proposed premium.

In this study income of the household was found to be statistically significant with out of pocket health expenditure. Respondents whose income was less than the first income group (<651 Birr) are 10.34 times more likely to spend than those whose income where greater on AOR = 10.34, 95% CI (1.82, 58.75).

Respondents whose income group is in between Birr 651- 999.999 where 11.01 times more likely to spend than those whose income is greater on AOR= 11.01, 95% CI (1.39, 86.85).Respondents whose income was in the range of Birr 1000 to 2500 where 3.14 times more likely to spend than those whose income greater than Birr 2500 on AOR= 3.14, 95% CI (1.96, 5.03). This may be because of households from low income level or group is obliged to expend high proportion of their income to cover their medical cost. Health status of the households, those which has at least one member of the household with chronic illness where 6.04 times more likely to spend than those who did not have on AOR=6.05, 95% CI (1.08, 33.89). This could be those households with chronic illness are more frequently visit health care institutions than those who did not have.

In this study predominantly visited private health care institution where statistically significant, those households who were predominantly visited primary health care institutions where 11.73 times more likely to spend for health care than those who predominantly used public health care institution. This may be due to the fact that private health institutions have high service cost than public health institutions.

According to this study, study households who were paying any educational fee were 3.39 times more likely to spend for their household health care than those who did not pay. This is may be due to the fact that as expenditures for different activities increases, people become stressed and their health condition might be disrupted. As a result, they would be forced to visit health care institutions.

Study households who had any debt to be paid where 2.98 times more likely to spend for their household health care than those who did not have any debt on AOR= 2.98, 95% CI (1.12, 7.98). This is may be due to the fact that as expenditures for different activities increases, people become stressed and their health condition might be disrupted. As a result, they would be forced to visit health care institutions.

4. CONCLUSION AND RECOMMENDATION

The study tries to assess magnitude of out of pocket health care expenditure and associated factors among study households and those who were in the low income level where spend much more proportion of their income. More than 75% of study participants in this study spend ≥3% of their income for health care service that means, they were spend much more than the government announces to pay for formal sector employees to be the member of social health insurance but they do not have health insurance coverage.

The study showed that income of the household, health status of the household at least one member of the household with or without chronic illness, predominantly used health institution either private or public health institutions, educational fee at least for one member of the family and debt on any member of the household found to have statistically significant association with out of pocket health expenditure. Understanding the proportion of out of pocket expenditure for health care services and associated factors must be fundamental for both the government of Ethiopia and formal sector employees to apply social health insurances. Based on the findings and conclusions of the study the following recommendations are forwarded;

- In this study most of out of pocket health care expenses covered by out of regular income. Therefore the government of Ethiopia should to give education and encouragement for formal sector employees.
- There were a big difference between household out of pocket health care expenditure and social health insurance cost to be paid by formal sector employees. Therefore social sector employees should be encouraged to use social health insurance.
- More research is needed on out of pocket health care expenditure and associated factors as there was no sufficient study.

ACKNOWLEDGEMENTS

We are very grateful to the DebreMarkos poly-technique Administrative for granting us to communicate to different departments. Our special thanks and sincere appreciation also go to supervisors, data collectors, study participants and teachers for contribution to the success of the data collection.

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