Original article

Health Service Utilization in Amhara Region of Ethiopia

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Abstract

Background: Information on health service utilization is crucial for planning, organizing and evaluation of health services.

Objective: Assess perceived morbidity and examine the factors associated with utilization of health services by a sample of the population of the Amhara Region.

Methods: Questionnaire was administered in 7 urban and 14 rural *kebeles* in four administrative zones. A total of 17780 people were included in the study.

Results: Of the 200 reported deaths 118 (59%) visited health institutions for the killer disease. Over the two weeks period preceding the survey, 995 (5.6%) people claimed that they were sick and 38.7% of them visited health institutions. The most important reasons for not visiting health institutions were believed that the disease did not need treatment in health institutions (31.9%), bought drugs from drug vendors (27.2) and visited traditional healers (20.2%). In multivariate analysis urban residence (OR= 2.8, 95%CI 1.8, 4.5) and educational status of head of household (OR =3.4 95%CI 2.1,5.5) were significantly related to utilization of modern health institutions. Teenagers and persons above the age of 60 were less likely to visit modern health services.

Conclusion: There is a wide gap between perceived morbidity, mortality, and modern health service utilization. In addition to the problems of accessibility and illiteracy of household heads, assumptions that modern health institutions are not helpful for certain disease conditions appear to be the main reason for low utilization of health services. [*Ethiop. J. Health Dev.* 2003;17(2):141-147]

Introduction

Ethiopia has one of the poorest health status indicators in the world (1-3) and the health service coverage is generally low (3). The Amhara Administrative Region, one of the largest in the country has a very high Burden of Diseases (4) and the coverage of health services has been estimated at 42.4% (3). This coverage is calculated considering people living at a radius of 10 KM of a health institution, including health stations. However a much less proportion of the population is believed to utilize the available service as evidenced by the coverage of the different types of preventive and curative services. For example, at the time of the study, nine hundred sixteen thousand eight hundred sixty eight persons (5.5%) attended outpatient departments of hospitals and health centres (5). A few studies were conducted on perceived morbidity, mortality and health service utilization in some areas of the Region. However, the studies were conducted in restricted areas and/ or were carried out quite a long time ago (6-9). The Amhara National Regional Health Bureau felt that a larger scale community based study was essential to address these issues. Such information is crucial for planning, organizing and evaluation of health services.

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The main objectives of this study were to:

1. Assess perceived morbidity from a sample of the population of the Region.
2. Examine the utilization of services by a sample of the population of the Region.
3. Assess the reasons for not visiting health institutions during illness.

Population and Methods

This cross sectional study was conducted in Amhara Region of Ethiopia in 1998. The Amhara Region is one of the 11 Regional states in the country. The Region is divided into eleven zones and was estimated to have a population of 14,940,155 people at the time of the survey. At the time of the study there were 12 hospitals, 52 health centres and 521 health stations (5).

Multistage sampling procedure was used to select the study population. As previous provinces of Gondar, Gojam and Wollo are currently divided in to two zones, one of the two previous Gondar zones, one of the two Gojjam zones and one of the two Wollo zones were randomly selected for the study. With the resources available for the study, such stratification was expected to enable the investigators to have a good representation of the population of the zones of the Region which share common characteristics such as disease patterns, socio -cultural features and availability of health services. Later one more zone, North Shoa was also included in the study since more resources could be mobilized from the Amhara Regional Health Bureau. Therefore, a total of four zones were included in the study. Except for North Shoa, which is the only previous Shoa zone included in the Amhara Region, two districts were randomly chosen in a selected zone. In North Shoa one district was selected. In the selected districts two rural and one urban kebeles (social administrative units) were chosen. Rural kebeles were selected based on accessibility. A simple random sample of rural kebeles with a distance of not more than 15 kms from the district towns were selected. Urban kebeles were selected by lottery among those in the selected district main towns. A total of 7 urban and 14 rural kebeles were included in the study.

Questionnaire were prepared on major socio demographic characteristics, perceived two weeks morbidity, mortality within a period of one year preceding the survey, and health service utilization. Nine to twelve students who completed 12th grade were chosen in each selected district with the help of district health management team members and local administration officials based on criteria set by the investigators. These interviewers were trained on techniques of data collection and interviewing. Pre-test was done in one urban and one rural kebele not selected for the study.

In each district a health worker (a nurse or a sanitarian) with previous experience in community based data collection and/or supervising such activities were selected to supervise and co-ordinate the activities of interviewers. The questionnaire was administered to the head of the household and/or the spouse and/or adult members of the household. The researchers witnessed interviews, reinterviewed a sample of respondents and checked as many filled questionnaire as possible each day in all selected sites. The supervisors randomly reinterviewed about 10% of the study population and checked each questionnaire for completeness and consistency before handing over to the investigators.

Data were entered and analysed using the statistical package EPI INFO version 5 and SPSS version 10. Distribution of the population by main socio - demographic characteristics, perceived morbidity rates, mortality rates, health service utilization and their distribution by place of residence, age, sex, and education were computed. Logistic regression analysis was performed to assess the relative impact of predictor variables on

modern health service utilization for perceived morbidity.

Results

Table 1 shows the socio - demographic characteristics of the study population. A total of 17780 people were included in the study. The age group 15 – 49 had the highest frequency (44.8%). There were 8517 males and 9263 females and the sex ratio was 92%. The average family size was 4.7. The majority of the study population (49%) were illiterate and 19% were farmers. About 75% were followers of the Orthodox Christian religion and Muslims accounted for 25% of the study population. Among this sample population 98.4% belonged to Amhara ethnic group followed by Tigray (0.9%) and Agew (0.3%).

A total of 200 deaths were reported and the crude death rate was estimated to be 11 per 1000 population. One hundred eighteen (59%) of the people who died in a period of 12 months preceding the survey were taken to health institutions for the disease, which killed them while the rest 82 (41%) did not visit health institutions. As shown in table 2, the most frequent reason for not taking patients who died for the disease that killed them was fast course of the disease (34.1%). The next most important reason was the deceased would not benefit from the services of modern health institutions (31.7%).

Table 1: **Distribution of the study population by major socio demographic characteristics, Amhara Region, Ethiopia. 1998 (n=17780)**

Age group (years)	Population	
	No.	%
<1	506	2.8
1 – 4	1789	10.1
5 – 14	5384	30.3
15 – 49	7961	44.8
50 – 64	1483	8.3
65+	657	3.7
Educational status		
Can't read and write	7014	39.4
Can read and write	1636	9.2
Elementary (Grade 1-6)	3173	17.9
Junior (7-8)	949	5.3
Secondary (9-12)	1353	7.6
Above grade 12	274	1.5
Children below 7 years	3381	19.0
Occupation		
Farmer (Subsistence)	3303	18.6
House wife	2645	14.9
Student	3904	22.0
Government employee (civil servant)	390	2.1
Petty trading	345	1.9
Local beer seller/bar tender	231	1.3
Weaver	109	0.6
Pension	243	1.4
Daily labourer/No regular job	1812	10.2
No job at the time of interview	1417	8.0
Below 7 years of age	3381	19.0
Religion		
Orthodox Christian	13297	74.78
Muslim	4465	25.11
Catholic	10	0.06
Protestant	3	0.02
Other	5	0.03
Ethnicity		
Amhara	17495	98.40
Agaw	62	0.35
Tigray	167	0.94
Oromo	48	0.27
Other	8	0.04

Table 2: **Reasons for not taking people to health institution for the disease that killed them. Amhara Region, 1997-98.**

Reasons	Frequency	Percentage
Diseases fast course	28	34.1
Assumed patient would not benefit from modern health services	26	31.7
Lack of money	8	9.7
Health Institution far from home	7	8.5
Refusal of patient	5	6.1
Accident	3	3.7
No body helped to take him to health institutions	3	3.7
Suicide	1	1.2
Reason not given	1	1.2
Total	82	100

Table 3: **Reasons for not visiting modern health institutions by people who perceived themselves sick during the two weeks preceding the survey. Amhara Region. 1997-98.**

Reasons	Frequency	Percentage
Believed their diseases did not need treatment in health institutions	170	31.9
Bought drugs from drug vendors,	145	27.2
Visited traditional healers	108	20.3
Used holy water	51	9.6
Visited local injectors	30	5.6
No reasons given	29	4.5
Total	533	100.0

Over the two weeks period preceding the survey, 995 (5.6%) people claimed that they were sick. The number of sick people who visited health institutions for treatment was 385 (38.7%) while the rest 610 (61.3%) did not visit health institutions for their perceived sickness. Table 3 shows the reasons for not visiting health institutions. The most important reasons were believed that the disease did not need treatment in health institutions (31.9%), bought drugs from drug vendors (27.2) and visited traditional healers (20.2%).

Urban residence (OR=2.6, 95%CI 2.0, 4.5) and secondary education or above (OR =2.1 ,95%CI 1.2,3.4) were significantly related to utilization of modern health institutions. Where the head of the household had primary education or above the odds of visiting health institutions for perceived illness was more than twice compared to households where the head of the household was illiterate. Teenagers and persons above the age of 60 were less likely to visit modern health services. In multivariate analysis educational status of the sick person did not have significant relation with modern health service utilization, but educational status of the head of the household primary (OR =3.4, 95%CI 2.1,5.5) or secondary (OR=3.5, 95%CI 1.4,8.8) was significantly associated with modern health service utilization. (Table 4).

Table 4: **Relation ship between health service utilization and some socio-demographic characteristics of people living in Amhara Region of Ethiopia**

	Visited health service		OR (95% CI)	Adjusted OR (95% CI)
Characteristics	Yes	No		
Age				
0-9	110	117	1.0	
10-19	34	154	0.2 (0.1,0.4)*	0.2 (0.1, 0.6)*
20-39	89	137	0.7 (0.4,1.1)	0.6 (0.3,1.2)
40-59	106	78	1.5 (0.9,2.3)	2.1 (0.9,4.3)
60+	46	124	0.4 (0.2,0.6)*	0.3 (0.1,0.7)*
Sex				
Male	160	287	1.0	
Female	225	323	1.3 (0.98,1.63)	1.1(0.7,1.6)
Educational status of the sick person**				
Illiterate	167	306	1.0	
Primary school	67	151	0.8 (0.6,1.2)	0.5 (0.3,1.1)
Secondary school and above	46	41	2.1 (1.3,3.4)*	2.1 (0.9,5.1)
Educational status of head of household***				
Illiterate	130	366	1.0	
Primary school	91	110	2.3 (1.6,3.3)*	3.4 (2.1,5.5)*
Secondary school and above	52	12	12.2 (6.1,24.9)*	3.5 (1.4,8.8)*
Place of residence				
Rural	178	424	1.0	
Urban	207	186	2.6 (2.0,3.5)*	2.8 (1.8,4.4)*

* Significant associations

** Children under seven years old excluded

*** The number of households where morbidity was reported was 761 making the denominator for educational status of head of households different from the sick persons

Discussion

Modern health service utilization in Ethiopia appears generally low. An earlier study which summarized the health profile of 52 districts reported that the per capita annual number of visits was 0.23 visits overall, with the mean for urban double that of the rural districts (9).

The distribution of the population in this community-based study resembles that of the population of the Region. There are some deviations though. The sex ratio appears to be a little low. This is perhaps because the study population included people living at a certain radius from towns. Town dwellers (and perhaps rural dwellers living around towns) may be dominated by females as they might migrate from more rural areas to make a living after divorce, separation or loss of husbands.

The distribution of the study population by educational status and religion may also be explained by the fact that the sample did not include people living in areas further than 15 kms away from towns.

The two week perceived morbidity prevalence appears lower than reported by Dagnew and Zein et al (7,8). The studies were conducted in one town and preceded the current study by more than a decade. Zein et al used a one-month recall period. Thus, the difference in time, study area and recall period between the studies might explain the difference in the findings. On the other hand the perceived morbidity prevalence is similar to the findings of a more recent study in one of the districts of the Region (6). Perceived morbidity in children in some surveys also reported similar prevalence (10-12).

About 41% of the people who died in a period of one year did not seek help in modern health institutions for the disease that killed them. The most frequent reason for not visiting health institutions among deceased people was disease's fast course. The next most important reason was the deceased would not benefit from the services of modern health institutions. These responses could be related to several issues including the perception of the relatives on how long after sickness should a patient go to health institutions, the time needed to prepare and to take a patient to health institutions, availability of transport facilities and lack of confidence in modern health services at least in certain disease conditions.

Only 385 (38.7%) of the people who perceived themselves sick visited modern health institutions. This is a little higher than reported in Dabat district in North West Ethiopia (6). The most common reason for not visiting health institutions was no need for treatment in health institutions followed by buying drugs from drug vendors. Thus there appears to be a wide spread view that modern health services may not be useful for certain health problems. Buying drugs from vendors might indicate to the better ease for the population of getting "treatment" at the drug vendors, and a common practice of selling drugs with out prescription with all its consequences. Earlier studies had shown that prescription-only medications could easily be obtained without prescriptions for self-medication (13). Another study from north west Ethiopia also reported a high prevalence of self medication (14).

That urban residence was significantly associated with modern health institutions utilization is expected because of better accessibility of the services to urban dwellers. Less expected might be the lack of significant association between health service utilization and educational status of the patient. This lack of significance might be related to the ability to make decisions to seek health services in health institutions. This is verified by the strong significant association of educational status of the head of the household, often the decision maker in most matters, with health service utilization of the patient. Teenagers and persons above the age of 60 were less likely to visit modern health services. The teenage is a period of transition from childhood to adulthood and the prevailing services do not generally seem

appropriate for this group of population (15,16). According to a study on non use of modern health services among school adolescents in Tanzania, use of traditional services was associated with lower level of satisfaction with modern services. Living situation and socio-economic status of respondent's family predicted utilization of modern health services whereas self-rated health status and perception that poverty was a threat against one's health predicted utilization of traditional health services. (17).

Older patients are more likely to have frequent illness and are more dependent on other people to be taken to health institution thus making it difficult for them to visit health facilities on all episodes of sickness. Older patients may also prefer other remedies than modern health services. In a study in Zambia in patients with cough, delay was associated with older age, severe underlying illness, poor perception of the health services, distance from the clinic and prior attendance at a private clinic. There was no relationship between delay and knowledge about tuberculosis, nor with education and socio-economic level (18).

There was no statistically significant association between gender of the patient and health service utilization in our study. A similar observation was made in the study of patients with cough in Zambia (18). However, another study on sexually transmitted infections (STI) reported that a major gender difference in delay of health seeking for STIs was observed between men and women (5 days for men versus 14 days for women)(19).

The type of illness also may have a bearing on utilization of modern health services. A study reported that leprosy patients with disability grade II more often resorted to traditional practitioners than modern health services. Worsening of the symptoms was the final motivation for many of the patients to move from traditional healer to the leprosy clinic (20). Our study did not look in to the association of disease symptoms with modern health service utilization.

However, certain health problems may be better dealt with by self-care, at home or community level in a more cost effective way. Effectiveness and side effects need to be assessed and such care may be encouraged.

This study included only people who lived within 15 kms of radius from district towns. The rural population in the region, with graver health situations is somewhat underrepresented in this study. Modern health service utilization by the whole population of the Region is expected to be worse than can be extrapolated from the sample population as the study population appears to be in a better situation in terms of socio-economic variables and health service accessibility.

In conclusion, there is a wide gap between perceived morbidity, mortality, and health service utilization in Amhara Region. In addition to the problem of accessibility and illiteracy of household heads, the reasons for low health service utilization appear to be related to assumptions that modern health institutions are not helpful for certain disease conditions. Adolescence and old age were significant factors that negatively affected the utilization of modern services.

Thus intervention to improve modern health service utilization need to focus at improving accessibility, informing and educating families and in particular heads of households, identifying disease conditions for which people do not use modern health services and creating awareness among the population about the importance of visiting health institutions as appropriate.

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