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Research Article

Determinants of Health Service Utilization among Older Adults in Ambo Town, West Shoa Zone, Oromia, Ethiopia

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Abstract

Introduction: In any country use of health services by elderly could vary according to the cultural, social, economic and demographic situation of the person who may need care. In certain contexts, it particularly varies with age and sex of the potential service user. However; there is paucity of information on the level and associated factors on health service utilization among elderly population in Ethiopia in general and in the study site in particular.

Objective: To assess utilization of health services and associated factors among population of older adults in Ambo town, West Shoa Zone, Oromia, Ethiopia.

Methods: A community based cross sectional study carried out on 284 elderly populations residing in Ambo town from February- March 2018. The collected data was cleaned, coded and entered into computer and analyzed using SPSS windows version 20.0. Descriptive statistics were done to summarize data. Binary and multiple logistic regression was undertaken to determine the independent predictor of health service utilization.

Result: The following factors were identified as determinants of health service utilization among the elderly in Ambo: a medical history of at least one chronic condition (OR = 1.737; [0.425 - 2.562]; p < 0.000), who had reported enough money to meet their need were 75% utilize health services when compared to participants who did not have enough money to meet their need 47.3% (OR = 1.587; 95% CI = [1.236 - 2.037], p = 0.004).

Conclusion and Recommendations: Age, Income, education, medical history of at least one chronic condition and poor perceived health status were the most pervasive determinants of health service utilization. These factors could help health policy makers and health service providers identify and understand the situation of the elderly and consequently create conducive environment for providing appropriate health services.

Keywords: *Health Service Utilization; Elderly*

Introduction

Healthcare means that maintenance of and improvement of physical and mental health. Older people usually need higher amount of health services compared with other age groups and are more likely to experience complications and adverse events as a result of declines in physical and mental function, which might result in the increase of morbidity, disability, mortality, medical utilization and burden of care [2,4,5].

In Ethiopia, Life expectancy has improved over the last two decades, increasing from 46.4 years in 1991 to 59.3 for 2011, according the UNDP Human Development Report of 2011 [8].

Older people experience a greater level of morbidity and are relatively frequent users of physicians' services and health services. Study done in Bangladesh, shows that morbidity rates are highest in the population aged 50 years and over, due to lack of availability and accessibility of health service related to old age population [14]. In addition, 26% reported of at least one medical problem, 5.7% had not sought any medical attention and 1.2% had self-treatments [15].

The behavioral model of health service use encompasses individual and contextual dimensions. It classifies predictors of health service use into three categories: predisposing, enabling, and needs-related factors. Predisposing factors are individual characteristics that exist prior to the illness (for example, socio-demographic profile, attitudes and values, and knowledge about services) Enabling factors include availability of health personnel and facilities, income, health insurance, regular source of care, travel and waiting times, and social relationships [19,20,22]. Needs-related factors are perception of need for health services, whether individual, social, or clinically evaluated perceptions of need and also Functional status is assessed based on the number of functional impairments in areas of activities of daily living and areas of instrumental activities of daily living: bathing, dressing, eating, getting in and out of bed/chair, walking, and using a toilet; and preparing meals, shopping for groceries, managing money, using the telephone, doing heavy housework, doing light housework, and managing medication. Functional status was calculated across all three waves and was included as a time-varying predictor [22].

Study on association on service utilization was reported by 2012 year in Dhulikhel, indicated that around 53% of respondents were aged 60 - 69 years while about 13% were aged 80 years or above. In addition, 57% of respondents were female, 85% was illiterate and of those that were literate, 87% had primary education and 11% had secondary education and 3% had tertiary education. It has found that most of the samples are young old between 60 - 69 years for 60.0% While 40.0% are 70 years and over. On the other hand, of all the elderly women only 4.6% had secondary education, 15.3% had primary education and 80.1% had no formal education. None of the elderly women had tertiary level of education and proportion of the respondents 35% was widowed, around 8.4% respondents lived alone and about 38% of respondents reported that they had difficulty in at least one activity in daily living [13,17,23].

As study done in Bangladesh indicates that, around 44% of respondents reported that they had at least one chronic disease. Furthermore, 40.6% reported that their health was good but only 3.3% said "very good." About 56% of respondents reported that their health was fair, bad, or very bad. The study found that self-assessment of health is significantly associated with age, sex, place of residence, level of education, marital status, working status within the week, annual income, living arrangement, functional status, number of chronic diseases and psychosocial problems [24,25]. A significantly higher proportion of respondents aged 80 years or above 73% compared with only about half the respondents 48% aged 60-69 reported that their health was poor. 54% of population of people aged 60 or older were females. Education has a negative effect on self-assessment of health. For example, 65% of the participants who were illiterate classified their health as poor compared to 32% of those who Study in Nepal shows that, marital status, dependence on others for activities of daily living, existence of chronic diseases. The trend of health service use was seen higher in respondents on regular medicine 81.1% which was similar to the studies done in Taiwan and Spain [27,28].

Inadequate access to appropriate health services and increased distance between residents and health care provider decreases utilization of health care services remains an important determinant of, health care utilization [29]. Similarly, study done in Dakota indicates some respondents living in towns with health care facilities are within a few blocks of service, while others reported the need to travel 100 or more miles. The median distance reported was 5 miles for routine health checkups, 9 miles for chronic health care visits, and 5 miles for emergency care [30]. Respondents travel 2 miles or less for routine or emergency care visits and 2.5 miles or less for chronic health care visits. On the other end of the spectrum, 25% travel 20 miles or more for routine checkups, 55 miles or more for chronic care, and 22 miles or more for emergency care, and 10% must travel 41 miles, 120 miles and 43 miles or more for routine, chronic, and emergency

care, respectively. The results show substantial variation in travel distances and very long travel distances for a significant number of individuals [31].

As some literature shows distance has its own effect on health service utilization. Most of the elders chose for the convenience or nearby homes first are 39.3%, followed efficiency of health service resource 11.3% respectively. For major reasons in choosing for convenience or nearby home was due to the fact that most of them are in rural areas which there are some health centers nearby. To commute to the government hospitals in urban area is difficult for them as they need to pay for the transportation cost or they might lack the needed vehicles [32]. 34.3% of delayed health care due to cost by the low income group demonstrates that low income elderly people are more sensitive to the cost of health care. The elderly with higher income under estimate their own health problems, as shown by 32.1% for the middle income and 36.2% for the high income groups in variable condition not serious enough [33].

Study in India reported that 48.5% of the study population had positive belief in traditional healers. Among 200 elderly, 58.5% preferred visiting health institutions, 19.0% preferred visiting traditional healers, 12.0% preferred other measures first for seeking health care and 8.5% preferred home remedies.

Study conducted in Jimma showed that out of those who had been ill in the previous 12 months, 53.7% visited modern health institution in the last episode of illness. Empirical evidence indicates that most nations will face population ageing to some degree over the next decades and planning for this ageing can mitigate some of the negative effects and enhance the positive consequences [38]. Providing free health service for all persons age 60+ like countries like Senegal and South Africa can may help to solve the problem [39].

Materials and Methods

Study area and period

The study was done from February to March 2018 in Ambo town. Ambo is located in southwest Ethiopia, 150 kilometers from Addis Ababa. The services provided include child care and support, family planning and HIV/AIDS. Among all this governmental and nongovernmental organization no one can provide health service related to old age and also older people related care and support.

Study design

Community based cross sectional study with quantitative and qualitative methods of data collection was employed.

Population

Source population

All elderly residing in Ambo town.

Study population

Sampled elderly were included in the study based on the inclusion and exclusion criteria. Inclusion and Exclusion.

Inclusion criteria

All adults age sixty and above years.

Exclusion criteria

Those who were mentally ill, critically ill, and unable to communicate and answered questions were excluded from the study.

Sample size and Sampling technique

Sample size

Quantitative

The sample size were calculated by using the single population proportion formula by considering the proportion of health service utilization of older adult (50%), at 95% confidence level and 0.05 margin of error using the following parameters.

$$ni = (Z_{\alpha/2})^{2p} \frac{(1-p)}{d^2}$$

where: n is the maximum possible sample size

$Z_{\alpha/2}$ =1.96 (95% confidence level for two side)

p = 50% (p is the proportion of assumed health service utilization for old people)

d = margin of error (5%)

ni = 384.

Since the source population is less than ten thousand, finite population correction formula was used to come up with the final sample size.

I.e. $nf = \frac{ni,}{1+\frac{ni}{N}}$

nf = 384/1+790

nf = 258

N = the total number of source population (total no of elderly).

Adding 10% non response rate the final sample size is 284.

Qualitative: Point of information redundancy or saturation of the sample size.

Sampling technique

Quantitative: To reach at the study unit the following sampling technique steps were employed.

- 1st a total household census was conducted to identify elderly people.
- 2nd house hold was listed.
- 3rd the list was used as a sample frame.

Qualitative: Purposive sampling was employed on seven respondents from governmental (administrative office of the town, health office of the town) and nongovernmental (Edir, organization of old people) organization as well as from family members based on their position and knowledge

Variables

Dependent variable:

- Health care utilization.

Independent variable

- Socio-demographic characteristics.

Data collection tool

Structured data collection questionnaire were used as a tool after thorough literature search to suite local needs [1,18] and adopted. The instrument arranged according to the particular objective it addresses as: Predisposing factors (9 items), enabling factors (13 items),

need for care factors (23 items) and utilization of health service that consist a total of 55 questions. For qualitative aspect of the study, semi structured open-ended questions were used to guide an in-depth interview.

Data collection technique

Date was collected through face to face interview by trained data collectors. Four Diploma nurses participated as data collectors and two supervisors were recruited and took training to have common understanding on the tool. Completion as a town administrative recommendation. Respondents who were not present at home during data collection time asked by returning back again until three times and if they are not present still they were considered as non respondent. Qualitative questionnaire includes questions about factors affecting elderly utilization of health service which was not investigated with the quantitative method on 14 respondents were recorded using tap-recorder.

Pretest

The questionnaire were pre-tested on respondents outside of the study area on 5% of respondents in Nekemte town that have similar socio demographic characteristics with the elderly of the study area before the start of actual data collection. Understandability, completeness of questions and some correction were made as necessary based on the result of the test.

Data analysis procedure

Quantitative

After checking the completeness, missing value, and coding of questionnaires, data was entered in to computer, processed and analyzed using SPSS version 20.0, and then finally data was present in tables, graphs frequency and percentage. For the association of variable binary and multiple logistic regressions was used.

Qualitative

Data from an in-depth interview were transcribed by arranging the record according to forwarded questions. Then comparison was done on the responses of different respondents to identify similarities and differences and the reasons behind the gap. Finally, information were linked and analyzed to its congruence with data obtained through an interview.

Data quality management

Data quality was ensured during instrument development, collection, coding, entry and analysis. The questionnaire first translated to Afaan Oromo and retranslated to English before data collection and different translator was used to keep the consistence of the questionnaire and necessary correction taken.

Then data collectors were trained about the purpose of the study and how to administer the questioner, Role play by trainers done to strengthen their skills of administering questionnaire and how to approach with participants in the field.

Instrument was tested on 5% of the respondents and correction taken accordingly. During data collection, questionnaire checked for its completeness on daily basis by immediate supervisors. Incorrectly filled or missed questionnaire were sent back to the respective data collectors for correction, and the supervisors' was submit the filled questionnaire to the principal investigator after checking its consistency and completeness. Investigator rechecks the completed Questionnaires to maintain the quality of data.

Discussion with data collectors and supervisors were made accordingly to solve problem encountered during data collection. Data quality was also ensured during data coding, cleaning, entry to computer and during analysis.

Ethical consideration

After approval of the proposal, ethical clearance and formal letter were obtained from research ethics committee of Jimma University. The necessary permission was obtained from Ambo administrative council, and kebele administrative office. Informed consent was

obtained from the study participants (elderly) after explaining the purpose of the study. Participants were assured that their name not stated, Data will be kept confidential and anonymous and were used only for research purpose. They also informed as they have full-right to participator not to participate in the study as well as to withdraw any time during the interview.

Dissemination plan

The findings of this study will disseminate to college of public health and medical science and School of Nursing and midwifery, Ambo District Administration and Health Office. The findings will disseminate to different stakeholders that have contributions to improve elderly' health services use. Finally, the findings used for joint plan with the concerned bodies.

Result

A total of 284 old adult respondents aged 60+ years, with females constituting 171 (60.2%) and Males 113 (39.8%) participated in this study. In terms of ethnic background, majority of respondents were from Oromo (61.6%). Participants who reported that they have been to school were further asked their highest level of education attained.

Variables		Frequency	%
Sex	Male	113	39.8
	Female	171	60.2
Age	60 - 64	98	34.5
	65 - 69	79	27.8
	70 - 74	29	10.2
	75 - 79	21	7.4
	≥ 80	57	21.1
Ethnicity	Oromo	175	61.6
	Amara	75	26.4
	Tigre	15	5.3
	Gurage	11	3.9
	Dawro	3	1.1
	Kefa	1	0.4
	Others	4	1.4
Religion	Orthodox	220	77.5
	Muslim	30	10.6
	protestant	31	10.9
	catholic	1	0.4
	other	2	0.7
Marital status	Single	18	6.3
	Married	125	44
	Divorced	54	19
	Widowed	87	30.6
Educational status	Yes	149	52.5
	No	135	47.5
Educational level	Grade 1 - 8	95	66
	Grade 9 - 12	33	22.9
	Collage/University	16	11.1
Substance use	Yes	64	22.5
	No	220	77.5

Table 1: *Demographic characteristics of the study sample, Ambo town, 2018, (N = 284).*

Prevalence of chronic disease

Of the chronic conditions investigated, Arthritis was the most prevalent (41.2%) (Figure 1).

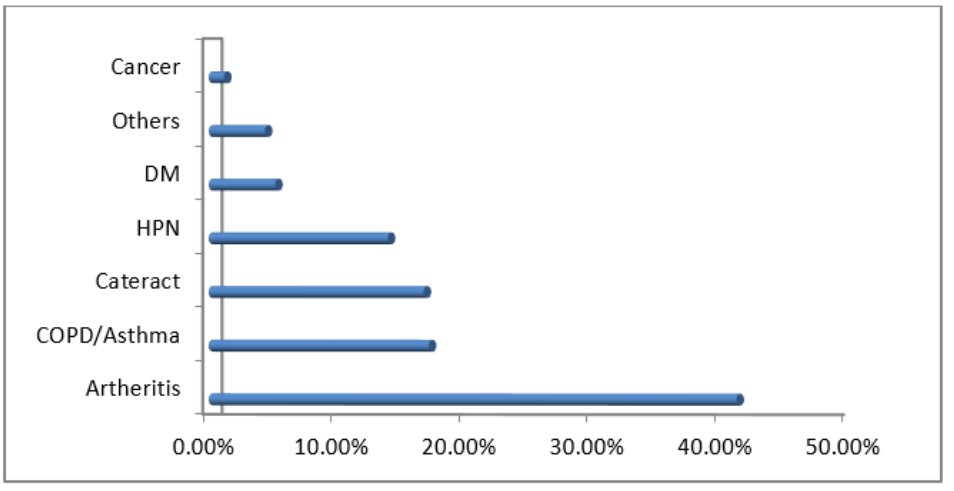

Figure 1: *Prevalence of chronic conditions among the elderly in Ambo town, 2018 (N = 284).*

Health service utilization

Of these, 141 (49.6%) reported to have utilized health service.

From the chronic conditions point of view, majority 32.8% of the study participants with arthritis reported health care utilization in the last one year (Figure 2).

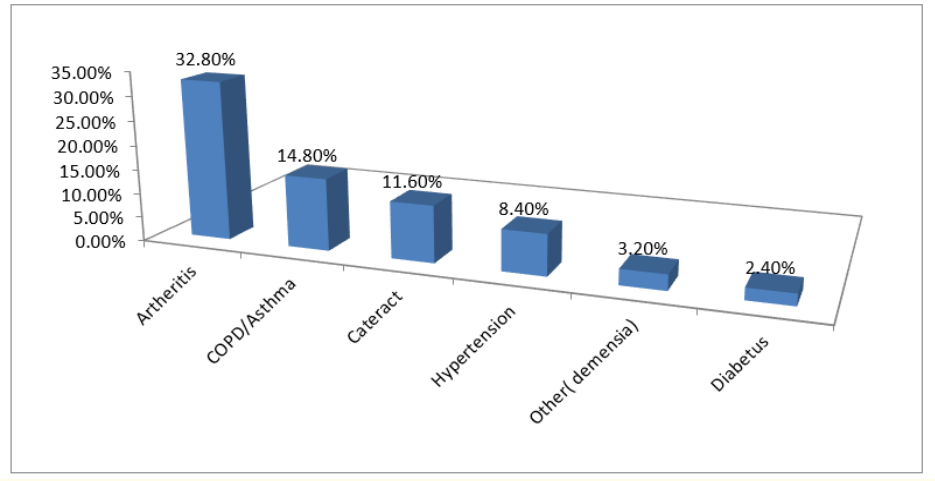

Figure 2

The main reason for not utilizing health service among elderly in Ambo town was "financial problem" which is responsible for 63.2%of respondents. "Aliment is not serious" was responsible reason of 16.20% respondents, "lack of medical facility and equipments" as well as using traditional and spiritual alternative accounts for 14.7%, 5.9% respondents respectively.

Predisposing variables and health care utilization

The results of the predisposing factors for health service utilization are presented in table 2. Among these variables, health service utilization differed significantly by sex of Study participants that means female participants utilized 52.6% while male participants utilized health service 45.1%. The study shows females' health service utilization more than male participants.

Variables Yes (n= 141)		Health care utilization in the last 1 year		
		No (n=143)	Total	
Sex	Male	51 (45.1)	62 (54.9)	113 (39.8)
	Female	90 (52.6)	81 (47.4)	171 (60.2)
Age	60-64	52 (53.1)	46 (46.9)	98 (34.5)
	65-69	46 (58.2)	33 (41.8)	79 (27.8)
	70-74	16 (55.2)	13 (44.8)	29 (10.2)
	75-79	7 (33.3)	14 (66.7)	21 (7.4)
	≥ 80	20 (35.1)	37 (64.9)	57 (20.1)
Ethnicity	Oroma	85 (48.6)	90 (51.4)	175 (61.6)
	Amara	39 (52)	36 (48)	75 (26.4)
	Tigre	8 (53.3)	7 (46.7)	15 (5.3)
	Gurage	5 (45.5)	6 (54.5)	11 (3.9)
	Dawro	2 (66.7)	1 (33.3)	3 (1)
	Kefa	1 (0.4)	0 (.0)	1 (0.4%)
	Others	1 (25)	3 (75)	4 (1.4)
Religion	Muslim	11 (36.7)	19 (63.3)	30 (10.6)
	Orthodox	113 (51.4)	107 (48.6)	220 (77.5)
	Protestant	17 (54.8)	14 (45.2)	31 (10.9)
	Catholic	0 (.0)	1 (0 .4)	1 (0.4)
	Others	0 (.0)	2 (0.4)	2 (0.7)
Marital status	Single	8 (44.4)	10 (55.6)	18 (6.3)
	Married	63 (50.4)	62 (49.6)	125 (44)
	Divorced	24 (44.4)	30 (55.6)	54 (19)
	Widowed	46 (52.9)	41 (47.1)	87 (30.6)
Educational Status	Yes	82 (55.4)	66 (44.6)	148 (52.1)
	No	59 (43.4)	77 (56.6)	136 (47.9)
Substance use	Yes	28 (43.8)	36 (56.2)	64 (22.5)
	No	113 (51.4)	107 (48.6)	220 (77.5)

Table 2: *Distribution of the predisposing variables for health service utilization in the last 1 year among the elderly in, Ambo town, 2018, (N = 284).*

About 40.6% utilized health service since health personnel (care givers) and facility are available while 14.10% had not utilized due to lack of health service providers (health personnel and facility). Among respondents who travel 10 km and above utilized health service

were 12.7% while 13.1% were not utilized health service. Similarly, those who travel less than 10 km 37.5% utilized health service were similar with those not utilized but travel the same distance.

Factors Yes (n = 141)		Health care utilization in the last one years		
		No (n = 143)	Total	
Money to meet needs	Enough	21 (75)	7 (25)	28 (9.9)
	Not Enough	121 (47.3)	135 (52.7)	256 (90.1)
Ever had an occupation (excluding housework)	Yes	75 (26.4)	66 (23.2)	141 (49.6)
	No	59 (20.8)	84 (29.6)	143 (50.4)
Availability of caregiver (health personnel and facility)	Yes	115 (40.6)	103 (36.4)	218 (77)
	No	25 (8.8)	40 (14.1)	65 (23)
Travel distance to get health service site (Distance)	< 10 km	106 (37.5)	106 (37.5)	212 (74.9)
	≥ 10 km	35 (12.7)	37 (13.1)	71 (25.1)

Table 3: *Distribution of enabling variables for health service utilization in the last one year among the elderly, Ambo town, 2018, (N = 284).*

Need variables and health care utilization

The proportion of reported health service utilization was 29.6% among those who performed ADL independently while 19.7% and 0.4% for those who perform ADL dependent for one activity and dependent for greater than one activity respectively.

From those respondents who have had cognitive impairment around 27% utilized health service only while the rest 42.2% not utilized health service. Those who do not had cognitive impairment but utilized health services are three times higher that is 73% than those have had and utilize health service.

As it is supported by qualitative study "No especial health service provided in our set up which focus on elderly people like children and mothers or youth. Even though chronic disease and anther old age related problems become prevalent, health service which provide full service that help to solve the problem is not available" from Health office of the town.

Factors Yes (n = 141)		Health care utilization in the last 1 year		
		No (n = 143)	Total	
Self-reported health status	Good	10 (3.5)	11 (3.9)	21 (7.4)
	Moderate	41 (14.4)	32 (11.3)	73 (25.7)
	Poor	139 (48.9)	51 (18)	190 (66.9)
Medical history of chronic conditions	Yes	179 (63)	56 (19.7)	235 (82.7)
	No	5 (1.8)	44 (15.5)	49 (17.3)
Disability	Mild	1 (5.6)	0 (0.0)	1 (5.6)
	Moderate	5 (27.8)	1 (5.6)	6 (33.3)
	Sever	11 (61.1)	0 (0.0)	11 (61.1)
Difficulty with self-care (bathing, washing, dressing) in last 1 year	Independently	84 (29.6)	75 (26.4)	159 (56)
	Dependent for one activity	56 (19.7)	64 (22.5)	120 (42.2)
	Dependent for greater than one activity	1 (0.4)	4 (1.4)	5 (1.8)
Cognitive impairment in the last one year	Yes	38 (27)	61 (42.7)	99 (69.7)
	No	103 (73)	82 (57.3)	185 (64.4)

Table 4: *Distribution of the indicators for the need of health services in the last 1 year among the elderly in, Ambo town, 2018.*

Health care utilization was significantly higher among the study participants with a medical history of at least one chronic condition than participants without any of the chronic conditions (OR = 1.737; [0.425 - 2.562]; p < 0.000).

Older adult who currently not married were found to utilized health service more than those married currently (OR = 1.031, 95% CI: 0.793 - 1.340, p = 0.458), but this effect was not statistically significant.

Odds of respondents with history of education before utilized health service 26% more than those respondents no history of education (OR = 1.260, 95% CI: 1.005 - 1.579, p = 0.028). Similarly, odds of respondents had an occupation were found to utilize health service 28.9% more than those respondents who had no occupation [OR = 1.289, 95% CI: 1.005 - 1.654, p = 0.029] which is statically significant.

On the other hand, odds of study participants who had reported enough money to meet their need were 58.7% more likely utilized health services compared to participants who did not have enough money to meet their need. This effect was statistically significant (OR = 1.587; 95% CI = [1.236 - 2.037], p = 0.004).

The percentage of health service utilization was 69.5% higher among study participants in the above mean age group 69 years compared to the 30.5% of health care utilization of those below mean age. This effect was statistically significant (OR = 1.127; [1.047 - 1.521]; p < 0.009).

Health care utilization was 1.4% higher among participants who travel less than 10km compared to participants who travel more than 10 km, but this effect was not statistically significant at the 5% significance level (OR = 1.014; 95% CI = [0.886 - 1.161], p = 0.473).

Study participants who reported their health status as moderate were 16% more likely to utilized health service compared to participants who were in good health status, but there was no statistical evidence for this effect (OR = 1.160; 95% CI = [0.673 - 2.019]; p = 0.153). However, participants who were in poor health status were significantly 57% times more likely to utilized health care than those who were in good health status (OR = 1.574; 95% CI = [0.627 - 3.951]; p = 0.005). On the other hand, health care utilization was 41% higher among participants with poor health status compared to those in moderate health status. An inverse relationship is therefore noticed between health care utilization and health status. The lower the health status the elderly person perceives, the higher the likelihood of health care utilization.

Discussion

The social and biological characteristics of the elderly make them a unique population as manifestations of ill health are sufficiently distinct from the rest of the population. This study has highlighted the utilization of health services in this unique group is very important for further intervention endeavors.

As indicated in this study health service utilization in the last one year was found to be significantly associated with age group (in years) of the study participants, occupation, educational history, medical history of chronic conditions, self-reported health status.

In this study about over half (68.3%) of respondent's fall sick often in last one year out of which only 47.5% visit health facility when seriously sick. In Contrary the report from Edo, Nigeria, were ninety percent elders got sick and 68% got health service [15]. In both studies the figures show slight differences, which could be explain by the number of patients in both places and accessibility of healthy services. Overall this could indicate that health services utilization tend to be less among elderly and reporting health problems.

Age as one of the predisposing variables influenced health service utilization in such a way that, study participants above mean age group (69 years) were 12.7% more likely to utilize health services than those below mean age group. More than half of respondents 62.3% were in 60 - 69 age group which was nearly similar with 50% of North Dakota finding. In addition to that, around 52.6% of respondents were female which similar result with 57% of study done in Mexico which is consistently supported by 54% of North Dakota [17,23,24]. This may be due to life expectancy of female is greater than male (women's live long than male).

Variables	Health service utilization %	COR (95%CI)	AOR (5%CI)
Medical history of chronic conditions			
No	97.3	1	1
Yes	2.7	1.657 (0.025-1.852)*	1.737 (0.425-2.562)*
Marital status			
Currently not married	55.3	1	1
Currently married	44.7	1.061 (0.793-1.456)	1.031 (0.793-1.340)
Ever been to be school			
No	41.8	1	1
yes	58.2	1.160 (1.105-2.879)	1.260 (1.005-1.579)*
Ever had an occupation			
No	46.8	1	1
Yes	53.2	1.389 (1.115-1.754)	1.289 (1.005-1.654)*
Money to meet need			
Not enough	47.3	1	1
Enough	75	1.287 (1.156-1.637)*	1.587 (1.236_2.037)*
Sensory impairment			
No	65.2	1	1
Yes	34.8	1.183 (0.842 -1.663)	1.123 (0.641-1.861)
Distance			
> 10 km	24.8	1	1
≤ 10 km	75.2	1.016 (0.746-1.192)	1.014 (0.886-1.161)
Availabilities of care giver			
No	17.9	1	1
Yes	82.1	1.140 (1.024-1.476)	1.140 (1.003-1.296)*
Self-reported health status			
Good	3.5	1	1
Moderate	14.9	1.126 (0.673 -2.031)	1.160 (0.673-2.019)
Poor	48.9	1. 524 (0.727-2.951)*	1.574 (0.627 -1.951)*

Table 5: *Significant associations between health service utilization and factors associated with health service utilization in the last 1 year among the elderly in, Ambo town, 2018.*
**: Statically Significant; AOR: Adjusted Odd Ratio; COR: Crude Odd Ratio.*

With respect to the indicators for enabling factors (i.e. financial problems, occupation, distance) had their own contribution on health service utilization of older adults. In this study, nearly half of 47.3% of respondents were not utilized health service due to lack of enough money which was almost similar with 53% study done in Nigeria and also supported by 34.3% of study done in kanchanaburi [33]. Cost of care is a significant and persistent barrier among elderly people, this is because of most-old are highly vulnerable to poverty and dependence as they can no longer produce sufficiently by themselves to meet their needs.

Those individuals travel less than or equal to 10 kilometers from the nearest health center or hospital had a 1.4 times higher chance of using the health services as compared to those travel more than 10 kilometers away, this finding was nearly consistent with 2.9% of other studies in Ethiopia [32].

One of indicator of the need variables with a significant association with health care utilization was a medical history of chronic conditions. There are few studies carried out in Africa including Ethiopia in this field and to the best of my knowledge no one so far has inves-

tigated the impact of the chronic conditions on health service utilization in elderly in study area. In this study, individuals with a medical history of at least one chronic condition were 1.7 times more likely than those without any of the chronic conditions to utilize health care services, which is nearly similar with 2.3% of study done in Ghana [38]. Health care utilization was also higher in those with at least one chronic condition 30.6% than that with none of the conditions, which is almost similar with study done in Bangladesh, indicates that 44% [31]. Chronic conditions have been consistently acknowledged in many studies to adversely affect lives of the elderly people and consequently influence their healthcare use.

Strength of the Study

- This study used qualitative method to supplement the quantitative result and also to explore factors that are not addressed by quantitative method.
- The study has high response rate (100% response).
- This study is probably the first/among the pioneer research related to older adult health service utilization in Ethiopia. It will be helpful as baseline information for other researchers.
- The sampling method used was simple random sampling and the sampling frame has included all kebeles in the town therefore generalization of the result can be made.

Limitation of the Study

- Few literatures were available. In addition, there is no similar published study conducted in our country, therefore comparing results made it difficult.
- Recall bias from respondents.
- Some responses for questions like sensory impairment can depend on respondents.

Conclusion

In conclusion, this study demonstrated that the most important factors influencing health service utilization of older adult were age, economic problems, education, self-reported health status and need for care factors (chronic condition) in nature.

- The main reasons of older adult for not utilized health service were lack of money, support and availability of service.
- Reasons assembled through interview shows that absence of full health service which is affordable and accessible for older person like other age group.

Recommendation

For district health office and health facilities

- In addition to providing free health service like other countries (Senegal and South Africa), Facilitate conditions for older persons in order that they are given priority in getting medical services at specially arranged schedules at home, in hospitals and other health institutions.
- Older persons face many health problems associated with longevity. On top of that, they are not beneficiaries of available health services. As result of these, it is difficult for them to utilize their potential and to effectively play their social roles. Considering the fact that older persons have special health problems, it is proper to find ways of providing the required services.

For Ambo district administration office

- Give special attention through policy supported measures to enable poor and those who don't have enough money older persons receive free medical services.

For NGOs

- Should support health offices and facilities by supplying materials and training of health care providers.

For Jimma university college of public health and medical science

- Developing a curriculum aimed at increasing the number of professionals in the field of ageing (geriatrics) to deal effectively with health problems of older persons.

Conflict of Interests

All authors declared that they have no conflict of interests. Jimma University covered only the survey cost for this study and there is no any funding organization.

Authors' Contribution

Wadu Wolancho, Gadisa Bekele and Abiru Neme conceived and designed the protocol. Abiru Neme, contributed on data analysis, and checked the draft. Abiru Neme and Wadu Wolancho prepared manuscript. All authors read and approved the final paper.

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