Research Article

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Determinants of Health Service Utilization among Older Adults in Bedele Town, Illubabor Zone, Ethiopia

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Abstract

Background: 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, studies that document on health service utilization among elderly population are generally scarce in Ethiopia and particularly, in the study area.

Objective: This study aimed to assess utilization of health services and associated factors among population of older adults.

Methods: A community based cross sectional study carried on 284 elderly populations residing in Bedele Town from February-March 2013 by using a structured questioner interview by four trained high school students through simple random sampling technique in all kebeles of the Town. Data were entered into epi data version 3.1 and analyzed using SPSS for windows program version 16. Odds ratio and 95% CI were calculated and P<0.05 was considered statistically significant.

Result: 49.6% of the study participants reported to have utilized health care services in the last 1 year. From 284 respondents reporting poor, moderate and good health status were 66.9%, 25.7% and 7.4% respectively. In multivariable logistic regression model, age group [AOR=1.127, 95% CI1.047, 1.521], education [AOR=1.260, 95% CI 1.005, 1.579], identified medical history [AOR=1.737, 95% CI1.425, 2.562], who had reported enough money to meet their need [AOR=1.587; 95% CI1.236, 2.037] and distance from health service were identified as determinants of health service utilization.

Conclusions and Recommendations: Age, Income, education, medical history of at least one chronic condition and poor perceived health status were determinants of health service utilization. This helps 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; Bedele Town

Introduction

The world is entering largely unfamiliar territory with respect to population aging and elderly people are persons in age group of 60 and over; the most vulnerable and high risk groups in terms of health status and their health care-seeking behavior is crucial in any society and as well combined with the dynamic evolution of past variations in birth and death rates, recent declines in fertility rates and increases in life expectancy are causing a significant shift in the global age elderly structure is projected to reach 1 billion by 2020 and almost 2 billion by 2050, representing 22% of the world's population [1-3].

As a result of the unique health characteristics of elderly people, such as a gradual reduction in physiological reserve and an increased susceptibility to the adverse impact of illness, an escalation in the numbers of older adults poses multiple challenges to the present healthcare systems. 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 [4,5].

Currently 22% of health status of people age 60 and above is bad or very bad and 34% find it difficult or very difficult to access health care service when they need it and healthcare expenditures for older adults can have a catastrophic effect on household finances, particularly in developing countries health services should be the cornerstone of efforts to prevent and control chronic disease and manage their long-term disabling consequences [6,7].

Aging associated with diseases, the cumulative effect of multiple exposures to psychological, physical and social conditions that are frequently unfavorable, increase the risk of health problems in the elderly. 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 and 26% reported of at least one medical problem, 5.7% had not sought any medical attention and 1.2% had self-treatments [8,9]. Physical and financial constraints impede timely utilization of available health care services. Impeded access can lead to underutilization of primary and preventive health care services which

in turn may result in unnecessary hospitalizations, increased morbidity and higher costs of the health care system than necessary [10].

The study indicated that 33% of health care expenditure is required by this population in USA, in Spain, the elderly account for 40% of general practitioner activity, 25-65% of home visits and 52% of the medications prescribed at the primary care level and it estimates are three to five times what would be expected according to the percentage of the elderly in that community, in Ghana, 5% of the country's population constitutes the elderly and their number is drastically growing as well implying that there is and will be more people to meet their basic needs such as healthcare [11,12].

It is important for an elderly person to have frequent doctor visits because health problem is most important problem among various problems of the elders. Besides the elders will to get sufferings from disease of physical and mental result being dependent and burdensome to their family due to their sickness psychologically affected the elderly themselves [12,13]. The promotional health of elders need to cooperate both government and private sectors in protection, promotion, rehabilitation, and cure health of the elders to promote elderly health in order that they will be physically, psychologically, emotionally, and socially healthy; ability live valuably and happiness, quality of life, and pass away with dignity [14].

The Behavioral Model of Health Service use encompasses individual and contextual dimensions which classifies predictors of health service use into three categories: predisposing, enabling, and needs-related factors 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; it was calculated across all three waves and was included as a time-varying predictor [11,12,15].

Study done 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 [7,16,17].

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 [18,19].

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 had more than secondary education, similarly on this study, 58% single, separated/divorced 58%, and widowed 63% respondents perceived their health is poor [18,20].

Inadequate access to appropriate health services and increased distance between residents and health care provider decreases utilization of health care services that indicates living near health care facilities are within a few blocks of service.

The median distance reported was 5 miles for routine health checkups, 9 miles for chronic health care visits, and 5 miles for emergency care. 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 [21-23].

Utilization of modern health facilities decreases with household size, utilization of traditional health care facilities increases with household size. About half of the households with 0-4 members utilize government hospitals while 75% of households with more than 14 members do not utilize modern health care facilities.

It 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. The reasons for decreased health institution visit during the illness were mild illness, shortage of money and visit to a drug vendor in 47.0%, 27.2% and 21.7% of the cases respectively. 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 [24-26].

In both developed and developing countries, health care utilization among the elderly were found to be associated with poor or negative self-perceived health status, nature of illness, access to the service, chronic conditions, living arrangements and limited physical activity performance in the activities of daily living. In order to support good quality of life of elders giving social welfare and public health service and to reduce risk of disability and sickness is a call of the day.

Therefore, the results of this study will be used as base line information to know, what factors have effect on choosing health service utilization. Considering this fact this study is intended to determine health service utilization among older Adults in Bedele Town, Illubabor Zone, Oromiya, Ethiopia (Figure 1).

Methodology

This community based cross-sectional study was conducted in Oromiya region of Ethiopia, Illubabor zone, Bedele Town, which located in southwest Ethiopia, 480 kilometers from Addis Ababa.

The Town has total area of 2878.1 square Km and 2000 to 2500 meter above sea level with annual rain fall and temperature of 1500-2500 mm and 33.8°C, respectively. According to the 2007 population and housing census of Ethiopia, the projected total

population of the town in 2013 is 28,782 out of which 14,400 were males and 14,382 females. From the total population 790 are aged above 60 years (355 males and 435 females).

The town has one governmental Hospital and Health center. In addition there are 3 nongovernmental organizations and 3 private clinics providing comprehensive health services in the town and surrounding area. 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. This study was conducted from February 01, 2013 to March 30, 2013.
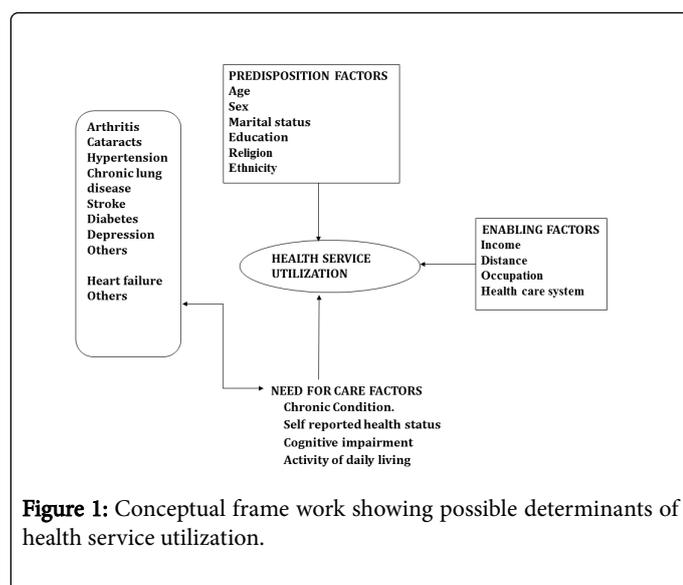

Figure 1: Conceptual frame work showing possible determinants of health service utilization.

This conceptual frame work was developed after revision of various studies related to health service utilizations, and variables in each box except the box containing health service utilizations were possible influential factors.

Population

All elderly population those residing in the two kebele of Bedele Town. The study population was a sampled older population. All population aged 60 years and older who have been inhabitants of Bedele town for 6 month or more; and who didn't have serious illness were included in the study.

Sample size determination and sampling technique

The sample size was determined using the single population proportion formula based on the following assumptions: the proportion of health service utilization of older adult 50%; the desired degree of precision was 5%; and 95% confidence interval. Correction was also made to adjust for a finite population. Using a contingency of 10% for non respondent, the final sample size was 284.To identify the study participants, 1st a total household census was conducted to identify elderly people, 2nd house hold was listed and 3rd the list was used as a sample frame. Finally simple random sampling was employed to get the study unit and one elderly from each house hold were selected as a study participant. When there were more than one elderly in one household, only one candidate included by using lottery method.

Ethical clearance was obtained from the Ethical Review and approval Committee of Jimma University. An official letter was written to the Bedele Town Administration by the University. Objective of the study was introduced to the respondents and informed consent was obtained before the interview.

For data collection a structured interviewer administered questionnaire, adopted after reviewing different studies [1,13] were used. In order to collect data four high school students and one supervisor with data collection experience were recruited considering their previous data collection experience, communication skill. Before the actual data collection one day training was given for data collectors and supervisor. A week prior to the actual data collection, the questionnaire was pre-tested on 5% of sample in Mettu Town.

Statistics

The collected data were checked for completeness, cleaned, edited, entered in to epi data 3.1 and analyzed by using SPSS for windows program version 16. Descriptive statistics (frequency, mean and standard deviation) were used. Bivariate analysis was conducted to see the existence of association between dependent and independent variables. Those variables that showed significant association with the outcome variable were included in a single model and multivariable logistic regression was performed to see the independent effect of each variable on the dependent variable. Finally only those independent variables that were persistently associated with the outcome variable were used to construct the final model. Odds ratio with its p-value and confidence interval was reported in each logistic regression analysis. A P-value<0.05 was considered statistically significant. Then the results presented in figures, tables and text.

Operational definitions

Health service utilization: Choosing to use any health service resource i.e. government hospitals, private hospitals or clinics, health centers, and buy medicine at drug store. Study participants who reported that they got health service last time when they needed it, and if this occurred within the last 1 year, were defined as participants who utilized health service. Participants utilized health service were those answered more than 80% of the questions. Participants who did not utilize health service were defined as (1) those that never needed health service, (2) those that needed health care in more than one year ago and (3) those that needed but could not obtain health care services.

Predisposing factors: Individual characteristics that exist and hinders clients from using health service.

Enabling factors: Features that influence care delivery and attitudes toward care.

Need for care factors: Factors include physical and mental health assessment by patients and professionals.

Old age: Those people age sixty (60) and above years old.

Results

Socio-demographic characteristics of respondents

Two hundred eighty four older populations were involved in the study with the response rate of one hundred percent. The mean age of respondents was 68 ± 10, most of the respondents 98(34.5%) were within 60- 64 age group. Majority of the respondents 175 (61.6%) were

Oromo in ethnicity. Of the 284 respondents, 220(77.5%) were orthodox in religion. The majority of the study subjects, 125 (44%) were married and 149(52.7%), 135(47.5%) were not educated and educated respectively. From those who had been educated, 95 (66%) had primary education (Table 1). Overall, the median average monthly income of the respondents was 500 Ethiopian Birr. Regarding occupation large proportion of the study subjects 58(22.8%) were students followed by merchants 56(22%).

Variables	Category	Frequency (n=284)	Percent (%)
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
	Others*	8	2.9
Religion	Orthodox	220	77.5
		30	10.6
	Muslim	31	10.9
	protestant	3	1.1
	Others**		
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
		33	22.9
		16	11.1
	Grade 9-12		
	Collage/University		
*Includes Dawuro and Kefa; **Wakefata and Jevoha Witness			

Table 1: Socio-demographic characteristics among respondents in Bedele town, Oromiya region, Ethiopia, March, 2013.

Health status description and prevalence of chronic disease

From 284 respondents those who reported their health status as poor, moderate and good were 66.9 %, 25.7% and 7.4% respectively. Of the chronic conditions investigated, Arthritis was the most prevalent (41.2%) followed by COPD/Asthma (17.2%), Cataract (16.8%), Hypertension (14%), Diabetes (5.2%), Cancer (1.2%) and) others like dementia (4.4%).

Health service utilization

Data on health service utilization were available for 284 participants. Of these, 141 (49.6%) reported to have utilized health service whereas 143 (50.4%) reported not to have utilized health services in the last one year preceding the interview.

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. This is the chronic condition which constituted the highest proportion of health care users of all the chronic conditions investigated. The proportion utilizing health service among individuals with chronic lung disease including asthma and Cataract was 14.8% and 11.6% respectively. The proportion of the study participants with hypertension, dementia and diabetes who utilized health services was range from 0% to 10% respectively

Health service utilization was further assessed in three categories (none, one and more than one) in presence of the chronic conditions. The category of participants with at least one and more than one chronic condition comprised the largest proportion 30.6% and 12.7% respectively than those individuals utilized health care 6.3% none of the chronic conditions.

Reasons for not utilized health service

There are a lot of reason that hinder those individual who needed health care but could not obtain health care service. Among those reason financial problems (63.2%), considering that aliment is not serious (16.2%), lack of medical facility and equipment (14.7%), and others (5.9%) (i.e. attending spiritual and traditional medicine).

Predisposing variables and health care utilization

The results of the predisposing factors for health service utilization were varied by sex of respondents that means female 52.6% utilized more than male 45.1%. Of the participants in the age groups 60-64, 65-69, 70-74, 75-79 and 80+ years, utilized health services 53.1%, 58.2%, 55.2%, 33.1% and 35.1% respectively. Participants utilized health services between the age group 65-69 and 70-74 years shows greater proportion than the rest age group. Education had its own impact on health service utilization, in which those individuals who had educated utilized health service 55.4% while 43.3% non educated respondents utilized health service. The proportion of health service utilization among who have had substance used but utilized health service and not substance used but utilized health service are 43.8%, 51.4% respectively.

Enabling factors and health care utilization

From the identified variables, around 75% who have had enough money to meet their need utilized health service while 47.3% from those who do not have enough money to meet their needs. Having any occupation 75 (26.4%) compared with those did not have occupation

59(20.8%) were differ on health service utilization 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.

Need variables and health care utilization

Of the study participants reporting their health status as good, moderate and poor, 3.5%, 14.9% and 48.9% respectively reported health care utilization in the last one year. Those who rate their health status as poor are more likely to use health services than those who reported moderate and good health status. Of those who reported a medical history of at least one chronic condition, 63% utilized health care services compared to 1.8% of those who had no medical history of any chronic condition but utilized health care anyway. Furthermore, of individual with sever disability was 61.1%, moderate disability 27.8% while individuals with mild disability reported 5.6% of health service 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.

Determinants of health service utilization

Multivariable logistic regression analysis was done to identify independent determinant of health service utilization among the study subjects. Respondents with a medical history of at least one chronic condition 1.737 times utilize health care than participants without any of the chronic conditions [AOR=1.737; 1.425-2.562] the respondents with history of education before utilized health service 26% more than those respondents no history of education [AOR=1.260, 95% CI: 1.005-1.579]. 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]. 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 [AOR=1.587; 95% CI1.236, 2.037]. The proportion of health service utilization was 69.5% among study participants in the above mean age group while 30.5 % of health service utilization from those below mean age with odds of [AOR=1.127; 95%1.047,1.521].

Health services utilization was 1.4% higher among participants who travel less than 10 km compared to participants who travel more than 10 km. Participants who were in poor health status were 57% times more likely to utilized health care than those who were in good health status [AOR=1.574; 95% CI 1.327, 1.951].

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 (Table 2).

Variables	Health service utilization		
	%	COR (95%CI)	AOR (95%CI)
Medical history of Chronic Conditions			
No	97.3	1	1
Yes	2.7	1.657(0.025-1.852)*	1.737(1.425-2.562)*
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)*
Cognitive impairment			
No	65.2	1	1
Yes	34.8	1.183(0.842-1.663)	1.123 (0.641-1.861)
Age			
Above mean age	69.5	1	1
Below mean age	30.5	1.122(1.047-1.426)	1.127(1.047-1.521)*
Performing ADL			
Dependently	57.4	1	1
Independently	42.6	1.323(1.474- 1.796)	1.684(1.121- 1.591)
Substance use			
Yes	19.9	1	1
No	81.1	1.071(0.945- 1.214)	1.125(1.041-2.251)
Sex			
Male	36.2	1	1
Female	63.8	1.127(0.932-1.362)	1.621(1.792- 1.832)
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)	1.610(1.273-1.421)
poor	48.9	1. 524(1.127-1.451)	1.574(1.327- 1.951)*
*Statically significant; AOR: Adjusted Odd Ratio; COR: Crud Odd Ratio.			

Table 2: Significant associations between health service utilization and factors associated with health service utilization in the last 1 year among the elderly in, Bedele town, 2013.

Discussion

This study assessed the determinants of health service utilization among older adults in Bedele Town and more 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. The finding of this study was different from study done in Nigeria, of which 99% of the participants got sick and 68% got health service [9]. The result of this study is lower than the other studies. The possible explanation for this could be due to the number of patients in both places and accessibility of healthy services.

Age as one of the predisposing variables influenced health service utilization in such a way that, study participants below mean age group (69 years) were 12.7% more likely to utilize health services than those above mean age group. That means in this study more than half of respondents 62.3% were in 60-69 age group which was nearly similar with the study done in North Dakota 50% [16].

This study identified that financial problems and occupation had their own contribution on health service utilization of older adults. Nearly half of 47.3% of respondents were not utilized health service due to lack of enough money and sufficient support from others. The finding of this study was almost similar with study done in Nigeria 53% and in kanchanaburi 34.3% [9,24]. This could be because of most-old are highly vulnerable to poverty and dependence as they can no longer produce sufficiently by themselves to meet their needs.

In this study almost less than half 40% of elderly people got near service for appropriate health service identified. The appropriate distance from varies health service was lower than the standard unit service and study done in India, Bangladesh and Spain [21,23]. The variation might be due to developing status of the study area and low societies attention for older adult service.

In this study, presence of identified at least one medical history of chronic condition 1.7% utilize health service than the counterpart. This finding is lower than study done in Ghana shows 2.3% [26]. The difference may be due to socioeconomic and numbers of participants in countries and chronic conditions have been consistently acknowledged in many studies to adversely affect lives of the elderly people and consequently influence their healthcare use.

Conclusion and Recommendation

Conculsion

This study identified 68.3% of respondents fall in sick while 49.6% of them utilized health service. It also 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.

Recommendation

District health office and health facilities: Should 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.

Considering the fact that older persons have special health problems, it is proper to find ways of providing the required services for them to effectively play their social roles.

Bedele district Administration office and NGOs those work on old persons should: Give special attention through policy supported measures to enable poor and those who don't have enough money older persons the way they get free or low cost medical services.

Co-ordinate concerned government and non-government organization so as to enable them contribute their share in improving utilization of health service (i.e. support health offices and facilities by supplying materials and training of health care providers).

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