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Health Services Utilization and Associated Factors among Internally Displaced Persons in South Wollo Zone, North-Eastern Ethiopia

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Abstract

Purpose: To assess the health services utilization and associated factors among internally displaced persons at South Wollo zone, North-Eastern Ethiopia, 2023.

Methodology: A cross-sectional study was conducted among IDPs in South Wollo Zone, North Eastern Ethiopia. The study was conducted from July 15 to August 15/2023. A structured questionnaire was administered to a random sample of 422 IDPs, collecting data on demographics, health status, health service utilization, and barriers to accessing healthcare. The data were entered into Epi-Data version 3.2, then, exported to SPSS version 25 for analysis. Logistic regression analyses were performed to identify factors associated with health service utilization. The Hosmer and Lemeshow test was used to determine the model's goodness of fit.

Findings: The study found that 61.1% (95% CI: 58.1– 67.2) of IDPs reported using health services within the past three months. Key factors influencing health service utilization among internally displaced persons were occupation (being a house wife [AOR:5.16, 95% CI: 2.42-11.00], daily laborers [AOR:3.27, 95% CI: 1.63-6.62], merchant [AOR;3.61;95%CI ;1.33-9.77] ,family size [AOR:2.72, 95% CI: 1.70-4.35], having an average monthly income of 1001–2000 birr [AOR:1.82, 95% CI:1.13–2.95], and duration of encampment [AOR: 1.77, 95% CI: 1.13–2.77] which are found to be statistically associated factors.

Unique contribution to theory, policy and practice: Health service utilization among IDPs in south Wollo zone is influenced by a complex interplay of duration of encampment, monthly income; occupational status and family size factors. Addressing these barriers through targeted interventions, improved income, and comprehensive information dissemination is essential to enhance healthcare utilization for this vulnerable population. Future research should focus on longitudinal studies to better understand the evolving needs of IDPs and the long-term effectiveness of implemented strategies.

Keywords: *Utilization of Health Services; South Wollo: Internally Displaced Persons*

1. Introduction

1.1. Background

People displaced inside their own countries due to armed conflicts, generalized violence or human rights violations continue to constitute the majority of the forcibly displaced population globally, Known as internally displaced people, or IDPs, they account for some 60 per cent of all people displaced. (**1**) Armed conflict and internal displacement of persons create new health challenges for women in Africa. Access to reproductive health services was influenced by knowledge, geographical proximity to health services, spousal consent, and affordability of care. As well, numerous factors affect the mental health of internally displaced women in Africa: excessive care-giving responsibilities, lack of financial and family support to help them cope, sustained experiences of violence, psychological distress, family dysfunction, and men's chronic alcoholism. (**3**)

In particular, the needs of IDPs are not well understood. The treatment of mental health and GBV is insufficient, and IDPs have inadequate access to essential health services in refugee camps. Needs assessment and program evaluations with a patients' perspective are either lacking or inadequate in most situations. The Horn of Africa is facing chronic food insecurity, poor population health and mass displacement. IDPs are an underserved group, and mental health services are lacking. (**4**)

In recent years, the Amhara people living within and outside the region are being displaced due to politically provoked ethnic-based attacks. Over 2,356,587 ethnically Amhara individuals had been intentionally uprooted from their indigenous residency in different regions and lived in 37 collective sites (camps) and the host communities. (**5**) In South Wollo zone there are 45,647 IDPs in eight weredas, in which 28,004 of them are settled in host communities and 17,643 in camps. From total IDPs in camps 9948(56.4%) are in three, 631, 7542 and 1775 are in Kutaber, Tehuledere and Kallu wereda respectively. (**6**)

1.2 Statement of the problem

When people migrate from one location to another, like rural to urban settings, for any reason, they always face challenges of poor hygiene and sanitation that can result problems on their health. But, in developing countries like Ethiopia, the health needs of IDPs are not well-known and are poorly met in these countries. Internal displacement tends to severely disrupt the lives of those affected. Displacement also creates specific needs that have to be paid for by IDPs themselves, host communities, government agencies and the humanitarian sector. (**7**)

Conflict and violent crises have resulted in over 40 million of internally displaced persons (IDPs). Most affected regions lack access to basic health resources and generally rely on humanitarian support. More intervention evidences are, however required as shown in gaps around food and nutrition, health education and disease surveillance. (**8**)

A significant number of the IDPs have been exposed to trauma, resulting in mental health conditions like PTSD, major depression, anxiety disorders, psychosis, substance use disorder, grief/complicated grief, and some psychosocial issues like low self-esteem, shame, guilt, and functional impairments. Despite the burden and disability caused by mental, neurological, and substance use (MNS) disorders, the prolonged nature of the conflict means that even the hitherto limited material and human resources are being overstretched. The result is an expansive treatment gap, which is the difference between those who need MNS disorder treatment and those who really receive or get it. (**7, 10, 11**) Challenges experienced by displaced populations are usually health-associated and related to communicable diseases, mental health, women and children. (**19**)

Further research is required to better understand IDP health needs, expectations and practices to support more responsive health services and systems. (**22**) The health requirements of IDPs are poorly understood and provided for in developing nations like Ethiopia. In order to address this, an on-site public health emergency operation center (PHEOC) has been developed to guarantee that the IDPs' health and nutritional needs are met and provided in accordance with coordinated efforts and international humanitarian response standards like the Sphere Handbook. Despite the large numbers of IDPs/refugees in various countries, there are few documented experiences about health service delivery approaches and methodologies in the camp, and prior studies have focused solely on the accessibility of services, a single disease, or the health needs of the IDPs. Meanwhile, the manner in which humanitarian services to be provided is often forgotten. (**38**) The aim of this study is to assess the health services utilization among IDPs in South wollo zone.

1.3. Objectives

1.3.1. General Objective

To assess the health service utilization and associated factors among internally displaced persons at South Wollo zone, North-Eastern Ethiopia, 2023.

1.3.2. Specific Objectives

- To determine the magnitude of health services utilization among internally displaced persons at South Wollo zone, North-Eastern Ethiopia, 2023.
- To identify factors associated to health services utilization among internally displaced persons at South Wollo zone, North-Eastern Ethiopia, 2023.

2. Literature Review

2.1 Magnitude of Health Service Utilization among IDPs

Internal displacement has profound impacts on individuals, including deteriorating living conditions, socio-cultural disorientation, loss of identity, family fragmentation, and limited access to essential services such as food, water, housing, healthcare, and education. These conditions

often lead to poverty, joblessness, social disarticulation, trauma, marginalization, and discrimination. (2, 17, 23)

IDPs are particularly vulnerable to various health issues. For instance, Nigerian IDPs are susceptible to parasitic infections due to their socioeconomic circumstances. In Ethiopia, displacement exacerbates food insecurity, malnutrition, deterioration of social infrastructure, family dissolution, psychological and physical abuse, economic instability, and the spread of communicable diseases. Displacement in Colombia has shown that teenagers experience significantly higher rates of anxiety, depression, PTSD, and suicide attempts compared to non-displaced peers. (1)

In the Horn of Africa, IDPs face high rates of under nutrition, morbidity, and mortality due to droughts, conflicts, and socio-economic instability, exacerbated by climate change. Studies highlight that access to healthcare among IDPs is often hampered by financial constraints, logistical barriers, and insufficient information about available services. (20, 26)

2.2 Factors Associated with Health Service Utilization among IDPs

Several factors influence the utilization of health services among IDPs. Initial government support providing free healthcare often diminishes over time, requiring IDPs to become self-reliant, despite challenges such as frequent shortages of pharmaceuticals and discriminatory attitudes from healthcare providers. Stigma, underfunding, lack of resources, and inadequate insurance coverage hinder access to mental health care in Georgia. (28, 29)

Immigration status is a significant determinant of healthcare access. Undocumented immigrants face greater obstacles than those with asylum or permanent residency, impacting their ability to establish relationships with primary care providers and obtain necessary medications. Socio-demographic factors such as age, sex, education, employment status, and income also affect healthcare utilization, with variations noted across different populations and regions. (30, 31, 32, 33)

In Ethiopia, health service utilization is influenced by chronic disease status, place of residence, occupational status, income, and perceived severity of illness. Barriers include shortages of pharmaceuticals, high non-medical fees, and challenges in accessing higher-level facilities. Effective interventions often require leveraging pre-existing structures and community-level education to improve health service acceptance and efficiency. (34, 35, 36, 38, 39)

Access to consistent medication and supplies, essential for effective healthcare delivery, is often ensured through collaboration between humanitarian organizations and local health authorities. However, issues such as medical staff shortages, budget constraints, and security concerns in conflict zones pose significant challenges. Recording past intervention experiences and conducting comprehensive studies on conflict-displaced populations are crucial for developing effective, cost-efficient strategies. (8, 40)

2.3 Conceptual framework

The health-seeking behavior of individuals, groups and communities are varied and largely influenced by a multiplicity of factors. The study was guided by Anderson's behavioral model. This model has been applied in several studies conducted in resource-poor communities to assess health seeking behaviors. The model asserts that access and utilization of health services is influenced by three main factors: Predisposing factors (socio-cultural characteristics), Enabling factors (resource availability), and Need factors (request for solution to illness).

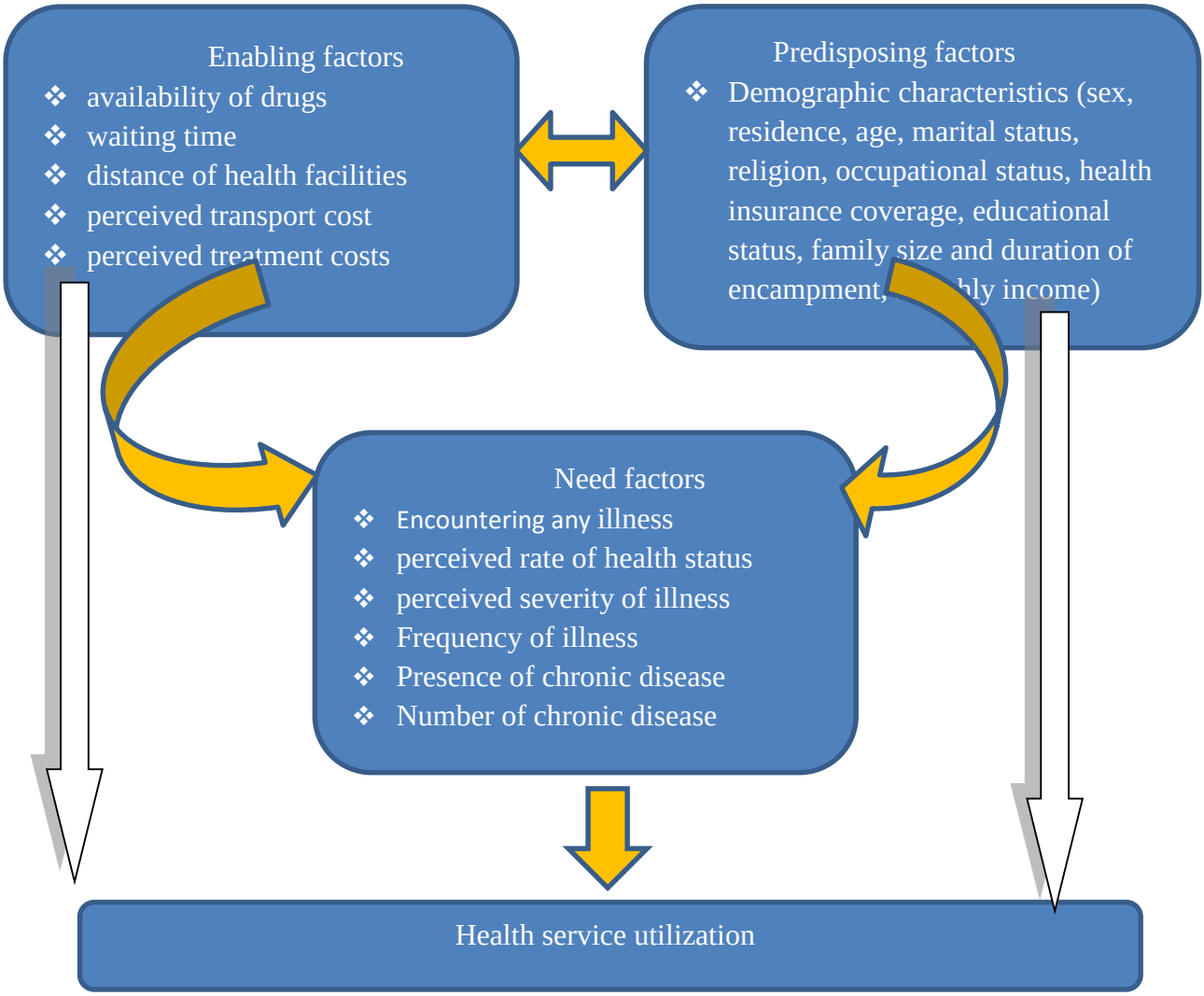

Figure 1:- A conceptual framework on health services utilization based on Anderson's behavioral model. (**41**)

3. Methods and materials

3.1. Study area and period

A study was conducted in South Wollo zone from July 15 to August 15, 2023. South Wollo Zone is adjacent to North Shewa to the south, East Gojam to the west, South Gondar to the northwest, North Wollo to the north, Afar region to the northeast, and the Oromo Special Zone to the east. It is one of the 11 zones of the Amhara National Regional State. There are 20 districts and 9 city administrations. It has a total area of 17,067.45 km2. South Wollo Zone Ministry of Health reports that the zone has 11 public hospitals, 129 health centers, and 521 health posts. The estimated potential coverage of health services is 82 %. Dessie is 401 km north of Addis Ababa, the capital of Ethiopia, and 480 km from Bahir Dar, home of the Amhara National Regional. There are a total of 2477 health care providers in the zone.

In the zone there are 10 IDP sites/camps in 8 Woredas. From these Woredas, Kutaber, Tehulidere and Kallu were selected randomly. In South Wollo zone there are 45,647 IDPs, in which 28,004 of them are settled in host communities and 17,643 in camps. From those IDPs in camps 9948(56.4%) are in three selected Woredas, 631, 7542 and 1775 in Kutaber, Tehulidere and Kallu woreda respectively (**6**).

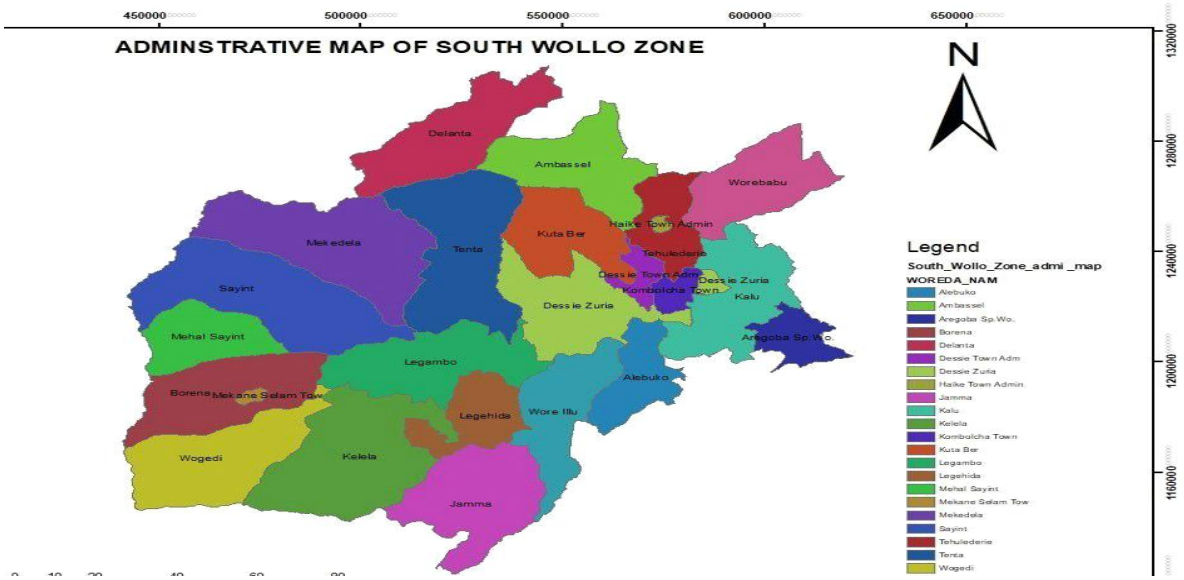

Figure 1: Administrative map of South Wollo zone (source: zone administration, 2023)

3.1. Study Design

A cross-sectional study design was used.

3.2. Source population

All IDPs who are settled in South Wollo zone were considered as a source population.

3.3. Study population

All IDP family heads in randomly selected Woredas of South Wollo zone was considered as a study population.

Inclusion Criteria: All IDP family heads available in study area during data collection period were included in the study.

Exclusion Criteria: Those unable to communicate due to serious illnesses during data collection period and settled outside IDP camps were excluded.

3.4. Sampling size determination

Three Woredas, Kutaber, Tehuledere and Kallu, were randomly selected from South Wollo zone. Then, the sample size was determined by single population proportion formula with 95% CI, 50% proportion, 5% margin of error and 10% non-response rate were employed.

$$n = \frac{(Za/2)2 * p(1-p)}{(d)\ 2} \Rightarrow \frac{(1.96)2 * 0.5(1-0.5)}{(0.05)2} = 384$$

$$\Rightarrow \quad 384 + 10\% = 38$$

Total samples --- 384 + 38 = 422

3.5. Sampling techniques and sampling procedures

A simple random sampling technique was used to select study participants from their respective camps. The sampling frame was camps and samples selected from IDPs based on simple random sampling technique. The list of IDPs with their respective camps has been available in each woreda which was used as a reference frame to employ a simple random sampling technique. The data were collected from IDP family heads. For those family heads who was absent during the data collection period, the data collectors was revisit and take the data.

Enabling factors (availabilities of prescribed drugs, waiting time, distance of the nearby health facility, family monthly income, Perceived transport cost and Perceived treatment cost), and need factors (perceived severity of illness, frequency of illness, perceived health status, presence of chronic health disease and number of chronic health disease).

3.6. Data Collection tools and procedures

Structured close ended questionnaire and interview guide were prepared from the review of different literatures. The contents included in the data collection tools are informed consent, socio-demographic characteristics, predisposing factors for health services utilization, need related factors for health services utilization, enabling factors for health services utilization and main barriers of health services utilization. Primary quantitative data were collected by interview-administered questionnaire.

3.7. Data quality control techniques

Data quality control techniques were practiced for each phase of the study. The questionnaire was written in English and then translated into Amharic, and finally retranslated into English by language experts to ensure consistency. Five BSc nurses for data collection and two public health professionals for supervision were employed.

Data collectors and supervisors were got one-day training from the principal investigator prior to data collection process. The questionnaire was pretested in 5% or 30 of the total actual sample size on volunteer participants of internally displaced persons in south Wollo zone before the real data collection process to increase the validity and quality of the data. The supervisors and principal investigators were monitoring the data collection process daily and in every instant of time so that reactions were given based on the problems that were faced.

3.8. Data processing and analysis

After data is collected, it was checked for the completeness of data, coded, and entered into the computer using Epi-Data software version 3.2. Then, it was exported to SPSS version 25 for analysis. Descriptive data were presented in tables and graphs with means, standard deviations, proportions, and frequency distributions. Bi-variable and multivariable binary logistic regression analyses were used to determine the associated factors of health service utilization of internally displaced persons in south Wollo zone. Variables having a p-value <0.2 in the bi-variable binary logistic regression was fitted into the multivariable binary logistic regression model for final analysis. Adjusted odds ratios (AOR) with 95% confidence intervals (CI) were reported to measure the strength of association.

Variables having a p-value of < 0.05 in the multivariable binary logistic regression analysis were considered statistically significant. The Hosmer and Lemeshow test was used to determine the model's goodness of fit, with a p-value >0.05 (assuming =0.05) indicating that the logistic regression model is a good fit.

3.9. Ethical review

Before data collection, ethical clearance was obtained from Ethical review committee of Wollo University College of Medicine and Health Science and also consent received from each respondent.

4. Results

4.1. Socio-demographic characteristics of the respondents

A total of 422 IDP family heads participated in this study, with a response rate of 95%. Most of the participants, 214(50.7%) were from Tehulidere jari number two IDP camp. Of the total participants, 65.9% were female. Most internally displaced persons in south Wollo, in this study 227(53.8%) were greater than two years living in the camp. Two hundred seventy four (64.9%) of the participants were married, and 62.8% of the participants were Muslim. Regarding

educational status, 31.5% participants have able to read and write, and out of the total participants, 149(35.3) participants are daily laborers. Two hundred thirteen (54.5%) of the respondents had greater than or equal to five family members and 11.4 % of them didn't got health insurance or free health service due to bureaucracy and other reasons **(Table 1).**

Table 1: Socio-demographic characteristics of internally displaced persons in south Wollo zone north eastern Ethiopia 2023.

Characteristics	Category	Frequency	Percentage
Sex	Male	144	34.1
	Female	278	65.9
Age in years	18-24	110	26.1
	25-50	180	42.7
	>50	132	31.3
Residence /name woreda of IDP camp	Kutaber/China camp	27	6.4
	Tehulidere/Jari 13 camp	55	13.03
	Haik Mekaneyesus camp	51	12.1
	Tehulidere/ Jari no 2 camp	214	50.7
	Kallu/Degan camp	75	17.8
Duration of encampment (in camp)	≥2 years	227	53.8
	< 2 years	195	46.2
Ethnicity	Amhara	394	93.4
	Oromo	28	6.6
Religion	Orthodox	97	23
	Muslim	265	62.8
	Protestant	52	12.3
	Catholic	8	1.9
Educational status	Unable to read and write	96	22.7
	Read and write	133	31.5
	Elementary school	114	27
	Secondary and above	79	18.7
Occupation status	Farmer	80	19.0
	House wife	98	23.2
	Merchant	29	6.9
	Daily laborer	149	35.3
	Student	66	15.6
Marital status	Single	53	12.6
	Married	274	64.9
	Divorced	63	14.9
	Separated	17	4.0
	Widowed/widower	15	3.9
Family size	<=5	192	45.5
	>5	230	54.5
Health insurance coverage/ free health service	Yes	374	88.6
	No	48	11.4
Reason for not getting health insurance/ free health service	Language/communication barrier	6	12.5
	Late comer	11	22.9
	Bureaucracy	31	64.6

Among study participants 39.1% of them have utilized the health service at government health facilities (health center and hospital), from this health center accounted for 61(14.5%).

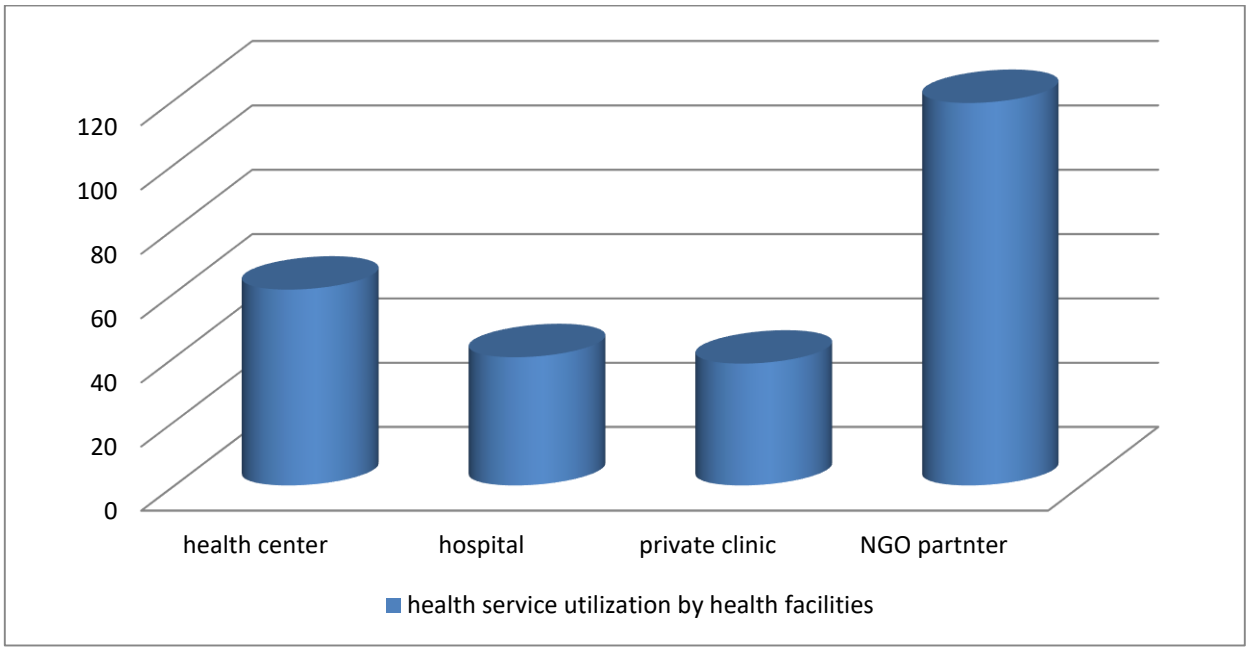

Figure 2:-Health service utilization by facility type among internally displaced persons in south Wollo zone North Eastern Ethiopia, 2023.

4.2. Need related factors of respondents

From the total study participants 264(62.6%) of them have encountered any illness for any reason during the last 3 months. Furthermore, 45(10.7%) were cited as peoples living with chronic disease and 9(20%) of them were living with two or more chronic disease **(Table 2).**

Table 2:-Need related factors of health service utilization among internally displaced persons in south Wollo zone, North Eastern Ethiopia, 2023.

Characteristics	Category	Frequency	Percentage
Encounter any illness for any reason during the last 3 month	Yes	264	62.6
	No	158	37.4
Frequency of illness	Once	64	24.2
	Twice	82	31.1
	Three times and above	118	44.7
Presence of chronic disease	Yes	45	10.7
	No	377	89.3
Number of chronic disease	One chronic disease	36	80
	2 and above	9	20

Perceived severity of illness

Of all internally displaced persons who have encountered with any illness in three months before this study, the majority 140(53%) perceived the severity of the illness as medium/moderate. On the other hand, only 15.9% of the study participants perceived the severity of the illness as mild (Figure 4).

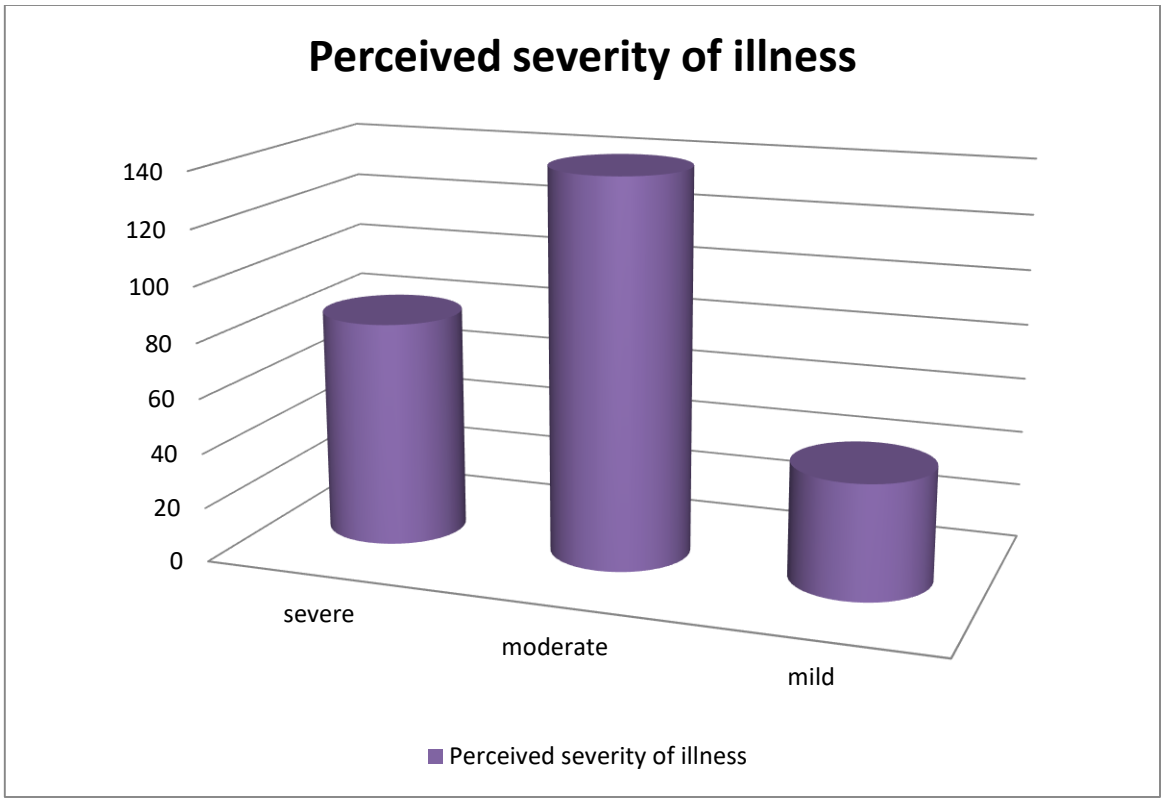

Figure 3: Perceived severity of illness among internally displaced persons in south Wollo zone north eastern Ethiopia, 2023

Rate of perceived health status of IDP

Perceived rate of health status among internally displaced persons in south Wollo zone (IDP) was rated to be 141(33.4%) poor and, 41 (9.72%) are very good (Figure 5).

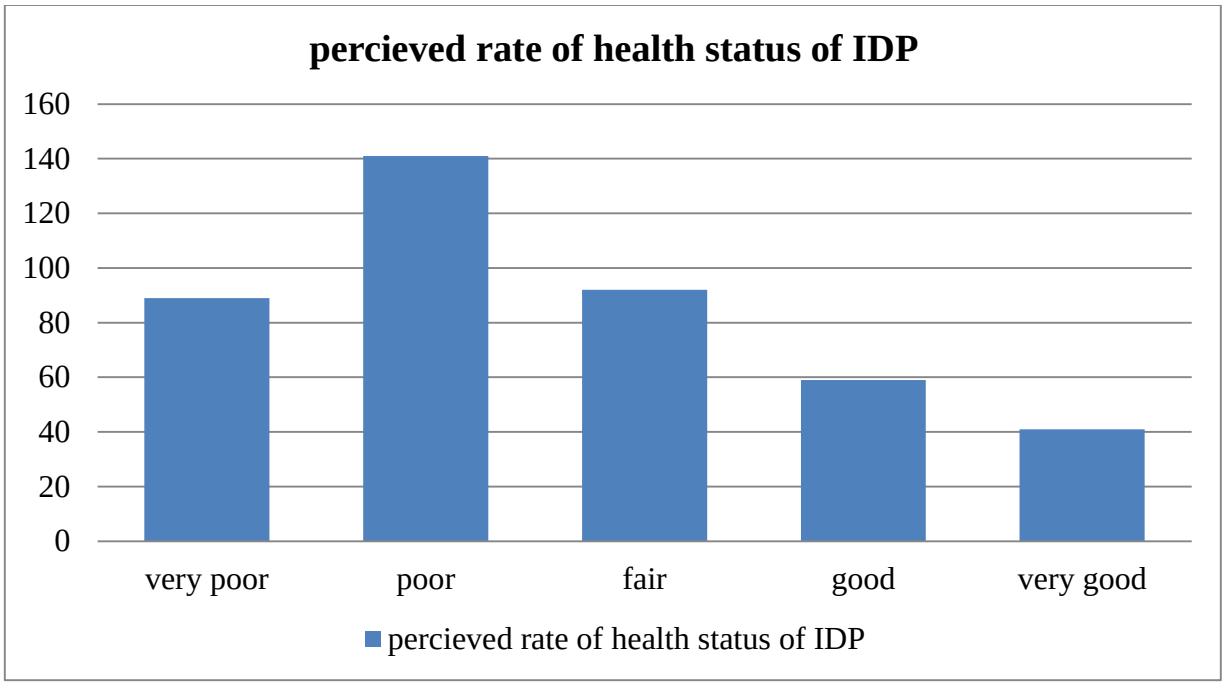

Figure 4:-Perceived rate of health status of internally displaced persons in south Wollo zone northeastern Ethiopia, 2023

4.3. Enabling factors among respondents

Of all participants, 308 (73%) of participants responded greater than five kilometers far from the nearest health facility. However, in 114 (27%) of the participants actual distance to the nearby institutions was found to be 5 kilometers or less. Concerning on the availability of prescribed drugs in the visiting health facilities 168(65.1%) of them were partially available in the visited health facility. 254 (60.2%) and 185 (43.8%) of the respondents perception on treatment and transport cost were expensive respectively. One hundred thirty four (51.9%) of the study participants reported that the waiting time after reaching the health facility was greater than 60 minutes whereas 33(12.8%) were less than 30 minutes wait to reach health facility **(Table 3).**

Table 3: Enabling factors of health service utilization among internally displaced persons in south Wollo zone, North Eastern Ethiopia, 2023

Characteristics	Category	Frequency	Percentage
Distance of the nearest health facility	>=5km	308	73
	<5km	114	27
Monthly income (in ETB)	<=1000	187	44.3
	1001–2000	161	38.2
	>2000	74	17.5
Availability of prescribed drugs in health facilities that you visited	Not at all	65	25.2
	Partially	168	65.1
	Yes all	25	9.7
Perception on the treatment cost	Expensive	254	60.2
	Medium	120	28.4
	Cheap	48	11.4
Perception on the transport	Expensive	185	43.8
	Medium	164	38.9
	Cheap	73	17.3
Waiting time after reaching to health institution	< 30 minute	33	12.8
	30–60 minute	91	35.3
	> 60 minute	134	51.9

4.4. Major reasons for not visiting a health institution

The major reasons for didn't visit any health facilities in the last three months were the perceived quality of health facility is poor, bought drugs from drug vendors, no comprehensive examination and language/communication barrier were 23(5.5%), 131(31.0%), 37(8.8%) and 3 (7%) respectively **(Figure 7).**

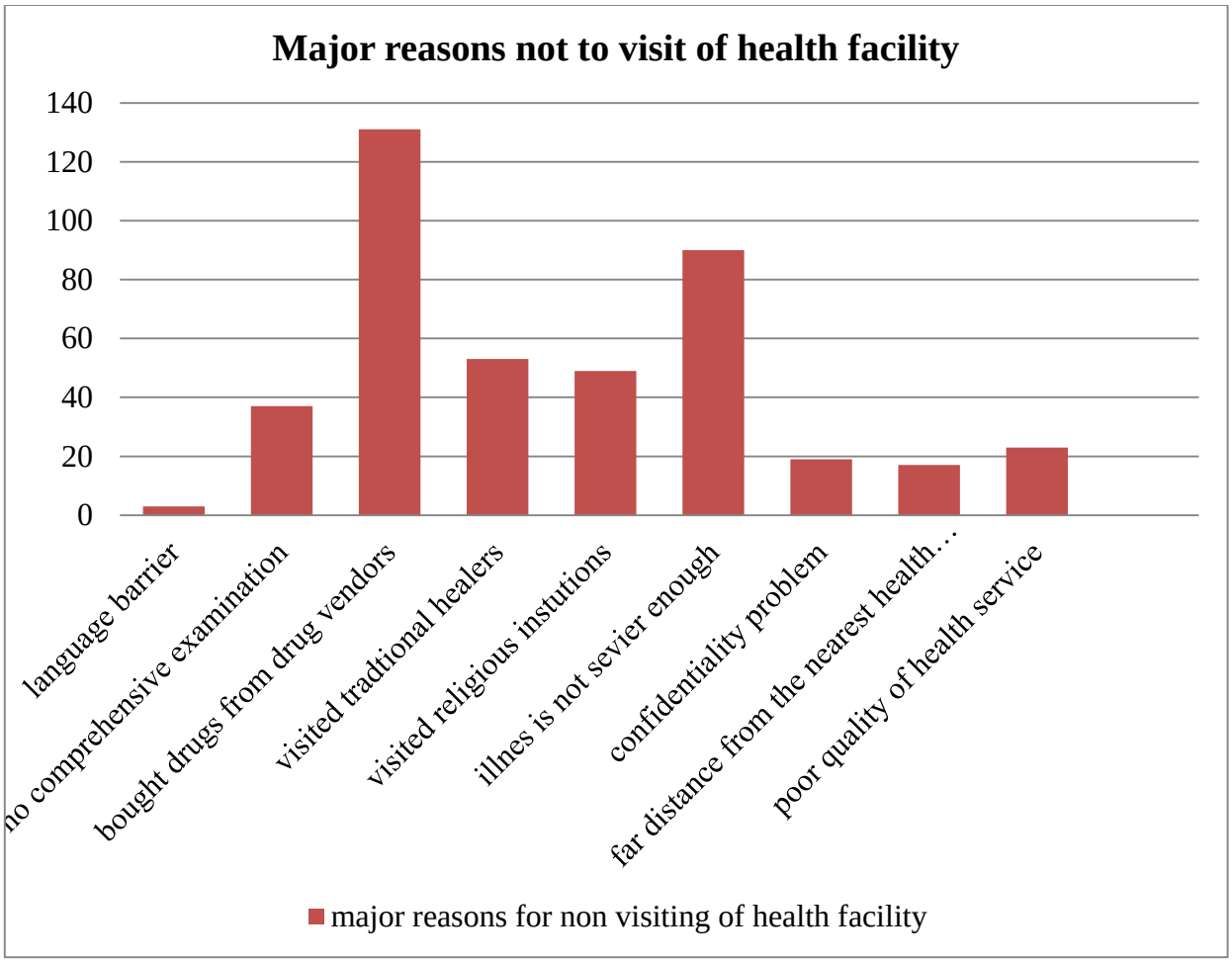

Figure 5: Reasons for not visiting a health institution during the last illness episode in internal displaced persons in South Wollo zone, North Eastern Ethiopia, 2023.

4.5. Magnitude of health service utilization

The overall health service utilization among internally displaced persons in south Wollo Zone Ethiopia was found to be 258(61.1%) (95% CI: 53.4–73.4) (**Figure 8).**

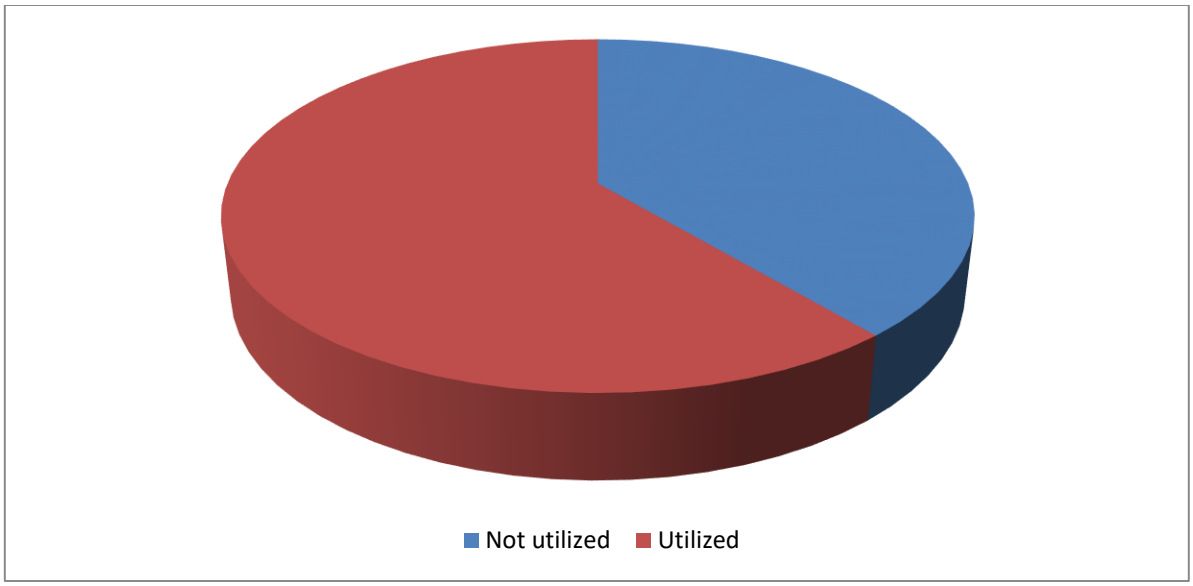

Figure 6:-Level of health service utilization status among internally displaced persons in south Wollo zone north eastern Ethiopia, 2023.

4.6. Factors associated with health service utilization among internal displaced persons

The overall health service utilization among internally displaced persons in south Wollo zone was found to be 61.1% (95% CI: 58.1– 67.2). Being an house wife occupation [AOR:5.16, 95% CI: 2.42-11.0], being merchant [AOR:3.61, 95% CI: 1.33-9.77], daily laborer as occupation [AOR:3.29, 95% CI: 1.63-6.62], having family size of persons living in IDP camps who have greater than five family members [AOR:2.72, 95% CI: 1.70-4.35], having an average monthly income of 1001–2000 birr [AOR:1.82, 95% CI:1.13–2.95], and duration of encampment greater than two years [AOR: 1.77, 95% CI: 1.13-2.77] , were found to be statistically associated factors with health service utilization among internally displaced persons in south Wollo zone north eastern Ethiopia 2023.

Table 4:-Factors associated with health service utilization among internal displaced persons south Wollo zone, north eastern Ethiopia, 2023.

Variables		Health service Utilization		COR (95%CI)	AOR(95%CI)	p
		Utilized	Not utilized			
Educational status	Unable to read/write	71	25	**1**		
	Read and write	81	52	1.82(1.03-3.24)		
	Elementary school	62	52	2.38(1.33-4.28)		
	Secondary school and above	44	35	2.26(1.19-4.27)		
Occupation	Farmer	66	14	**1**	**1**	**.000**
	House wife	49	49	4.71(2.34-9.49)	**5.16(2.42-11.00)**	**.000**
	Merchant	16	13	3.83(1.51-9.73)	3.61(1.33 -9.77)	**.012**
	Daily laborers	82	67	3.85(1.99-7.46)	**3.29(1.63-6.62)**	**.001**
	Student	45	21	2.20(1.01-4.78)	1.85(.81-4.22)	.144
Duration of encampment	<2years	149	78	**1**	**1**	
	>=2 years	109	86	1.51(1.02-2.23)	**1.77(1.13-2.77)***	**.012**
Family size	<=5	139	53	**1**	1	
	>5	119	111	2.45(1.63-3.68)	**2.72(1.70-4.35)***	**.000**
Distance of the nearest HF	>=5km	198	110	**1**		
	<5km	60	54	1.62(1.05-2.50)		
Monthly income of the family	<=1000	128	59	**1**	**1**	**.030**
	1001–2000	90	71	1.71(1.10-2.65)	1.82(1.13–2.95)	**.014**
	>2000	40	34	1.84(1.06-3.20)	1.80(.976-3.31)	**.060**
Rate of health status	Very poor	66	23	**1**		
	Poor	84	57	1.95(1.09-3.48)		
	Fair	53	39	2.11(1.12-3.96)		
	Good	32	27	2.42(1.20 - 4.87)		
	Very good	23	18	2.25(1.03-4.89)		
Perceived treatment cost	Expensive	168	86	**1**		**.064**
	Medium	66	54	1.60(1.03-2.49)		
	Cheap	24	24	1.95(1.05-3.64)		
Perceived transport cost	Expensive	127	58	**1**		
	Medium	91	73	1.76(1.13-2.72)		
	Cheap	40	33	1.81(1.04-3.15)		
Availability of prescribed drugs	Not at all	52	13	**1**		**.066**
	Partially	104	64	2.46(1.24-4.87)		
	Yes all	14	11	3.14(1.16-8.51)		
	No visit	88	76	3.45(1.75-6.83)		

5. Discussion

The magnitude of health service utilization of internal displaced peoples in south Wollo zone were (61.1%), this is similar with a study in Somaliland Hargeisa internal displaced peoples was found to be 61.5 % (9). This similarity may be due to similarity in methodology, study period as well as proximal sample size. In this study, the overall health services utilization in the previous 3 months was found to be 61.1% also higher than studies in west Ethiopia, in which the level of health services utilization was found to be 45.6%. This is because the current study focused on the overall health service utilization in the IDPs camp setting while the study on west Ethiopia was only utilization in the community household levels and there is large time difference between the two studies (35).

The level of health service utilization in current study is lower than a study in South Africa, 95.7% (33). The possible justification will be difference in income status of study participants and availability of infrastructure, health system, availability of drugs and health seeking behavior of participants not taking traditional medicines, drug vendors. Supported by another similar study revealed that, health services utilization, is inversely related to certain barriers that may be physical (distance), economic (the cost for the patient), cultural (low awareness and health care seeking behavior) or technical (poor quality of health care) (38).

In this study, the health service utilization in the previous 3 months was found to be 61.1% .This is higher than findings from other countries. In the countries of the former Soviet Union (1), 57% of all respondents have utilized health services. The possible justification is the current study focused on internally displaced persons visiting health facility before three months period only and there is a difference in sample size. Thus, efforts should be strengthened to improve the level of health care utilization in IDP setting in south Wollo zone internal displaced persons.

The health services utilization of internal displaced peoples in south Wollo zone at government and the private (NGO) health facilities were 39.1% and 60.9% respectively. Health service utilization was lower than a Similar study in Bangladesh (75.4%) in private health facilities, and (24.6%) in government health facilities, in which private health facilities are the most utilized places for seeking healthcare for the internally displaced persons (42). The difference might be sample size and difference income status of the respondents. This finding was also higher than a study in west Ethiopia, the health services utilization at government and the private health facilities were 35.5% and 18.5% respectively (36). The possible reason is in this study only consider three months visit of internal displaced persons in any health facility and availability of mobile health emergency health care service provider during data collection period in the camp.

In this study 38.9% of IDPs have not visited any health facility in the nearby place and the 131(31.04%), 90(21.32%) of them were the most common reasons which bought drugs from drug vendors, and the illness is not severe enough respectively. According to Andersen, factors affecting utilization of health services include health status, predisposing factors and enabling factors (4). Severity of an illness was seen to be important in utilization of health services. The

most common reason (47.0%) cited for not visiting a health institution during the illness was the fact that the illness was mild. This finding is consistent with other studies in Ethiopia (3).

On binary logistic regression educational status, occupation, family size, monthly income, duration of encampment, distance of nearby health facility, perceived transport cost, perceived treatment cost, rate of health status and, availability of prescribed drugs were entered into the model. Then after controlling for confounders; occupation, duration of encampment, family size and household monthly income were found to have a significant statistical association with utilization of health services in internal displaced persons living in south Wollo zone.

Monthly income found to be a significant determinant in decisions about utilizing health service in internal displaced persons (IDP) of south Wollo zone. Participants with lower monthly incomes are less likely to use health services compared with those with higher incomes. This was supported by studies conducted in West Ethiopia (36) and Northeast Ethiopia (38). This may be due to financial restrictions; low income status persons only utilize health service they depend on public health facilities, which didn't increase the utilization of health services.

This study has revealed that the monthly incomes of internal displaced persons whose monthly income is from 1001-2000 ETB were 1.82 times more likely to visit the health facilities than lower monthly income groups. Likewise, in the other studies, a statistically significant correlation between monthly income status and the use of health care services was found, reasoned that peoples with high income status use health-care services at a higher level is parallel to the literature (19). This may suggest that low income status make to health care utilization difficult, and a higher obstacle to afford treatment and transport costs. But a research performed in Brazil, has shown that the lowest uneducated socioeconomic group made 62% fewer doctor visits (**7**). This might be due to the fact that there is a free health service to the poor in Ethiopia and the high socioeconomic group might have a better health status.

A study in Washington DC supports income correlates highly with health service utilization so that People who have lower family income typically have higher rates of chronic disease (heart disease, stroke, diabetes, or hypertension). People in families that have less income status are more likely to be obese and to smoke cigarettes than wealthier people also more likely to have self-reported serious psychological distress, and have family income below 200 percent of the poverty level were more likely than those who had higher family income to delay seeking or not to receive needed medical care because of treatment cost (16).

Similarly duration of encampment was found to be a significant determinant in decisions about utilizing health service in internal displaced persons (IDP) of south Wollo zone. Those individuals whose duration of encampment greater than or equal to two years had 1.77 times higher chance of using the health services as compared to those IDPs whose encampment was less than two years. This was supported by a study in Turkey; there was a statistically significant difference between the use of health services by immigrants and the duration of encampment. It was found that immigrants who stayed longer used health services more. It may be because

immigrants living longer in the host country have more knowledge about the health-care system of that country than those who are newcomers to the country. At the same time, the increased interaction with the health system over time may have influenced individuals in the positive direction and provided them experience on how and where to refer (32).

Similarly, occupational statuses of internal displaced persons were predictors of health service utilization. Being a house wife occupation had 5.16 times more likely to utilize health services than farmers [AOR: 5.16, 95% CI: 2.42-11.00]. Consistent with this, a study in west Ethiopia house wife (Females) were found to utilize the health services 4.071 times more likely than males. This might be explained by the fact that women are more prone to illness due to peculiar reproductive health needs. Moreover, women would be more likely to accompany their children to health institutions where they seek treatment for themselves too. This finding is consistent with the study done by Fistum and Challi et al (11).

Besides, in this study, daily laborers were 3.29 times more likely to utilize health services than farmers {AOR=3.29(CI; 1.63-6.62). Daily laborers have more prone to nutritional disorder, work related injuries, no regular income generated for the purpose of health service at the time of illness and utilize more health service .It is consistent with the study in South Gondar zone (20). This could be because daily laborers are too busy with their regular daily activities to visit health institutions. Alternatively, their income may decline, and they may visit more government health facilities.

In other countries, however, unemployment among IDPs can be a long-term problem. Research in nine former Soviet countries showed that displacement raised the short-term unemployment rate by 37 per cent and that IDPs were still more likely to be unemployed or working in the informal sector 10 to 15 years later (32). IDPs in Georgia were up to 11.6 per cent more likely to be unemployed than members of the general population, in some cases even 20 years after their displacement (29).

In this current study family size was the major factors for predictors of health service utilization in internal displaced persons of south Wollo zone. Having family size of peoples living in IDP who have greater than five family members have 2.72 times more likely to utilize health services than those persons whose family size less than five family members [AOR:2.72, 95% CI: 1.70-4.35). A study in Uganda shows that 60.5 % of peoples living in IDP have more prone to communicable disease than those households living less than 5 family members' .This similarity with this study due to an increase in family size which demands more income and medical supplies (37).

6. Conclusion and recommendations

6.1. Conclusion

The study revealed that 61.1% % (95% CI: 58.1– 67.2) of internally displaced persons (IDPs) utilized health services within the past six months, indicating a moderate level of healthcare

access among this population. Several key factors significantly influenced health service utilization. Occupation emerged as a critical determinant, with housewives, daily laborers, and merchants showing higher odds of accessing healthcare services. Additionally, larger family size, moderate monthly income (1001–2000 birr), and longer duration of encampment were associated with increased healthcare utilization.

These findings highlight the importance of addressing specific socio-economic and demographic factors to improve healthcare access for IDPs. Tailored interventions that consider the unique needs of various occupational groups support for larger families, financial assistance programs, and sustained healthcare services in IDP camps are essential. By focusing on these areas, stakeholders can enhance healthcare utilization and improve health outcomes for internally displaced populations.

6.2. Recommendations

1. Targeted Outreach Programs

Occupation-Specific Interventions: Develop targeted outreach and education programs for housewives, daily laborers, and merchants to address their specific health needs and challenges in accessing healthcare services.

Community Health Workers: Employ and train community health workers from within these occupational groups to provide culturally and contextually relevant health information and support.

2. Family Support Services

Family Health Education: Implement family health education programs that focus on preventive care, maternal and child health, and chronic disease management to address the needs of larger families.

Childcare and Health Services: Provide integrated services that combine healthcare with childcare, making it easier for larger families to access necessary medical care.

3. Income-Related Interventions

Subsidized Health Services: Introduce subsidized health services or health insurance schemes for families with an average monthly income of 1001–2000 birr to alleviate financial barriers to accessing healthcare.

Income-Generating Activities: Support income-generating activities and vocational training programs to improve the economic stability of IDP families, thereby enhancing their ability to afford healthcare services.

4. Policy and Coordination

Government and NGO Collaboration: Foster stronger collaboration between government health agencies, non-governmental organizations (NGOs), and international bodies to coordinate efforts and resources effectively.

Policy Advocacy: Advocate for policies that prioritize the health needs of IDPs, ensuring they are included in national health plans and emergency response strategies.

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