



## Assessment of Healthcare Utilization among Fishing Households in Coastal Areas of Lagos State

Ashimolowo, O.R., \*Ojebiyi, W.G, Soetan, O.J. and Oluwa, K.A.

Department of Agricultural Extension and Rural Development,  
Federal University of Agriculture, P.M.B. 2240, Abeokuta

\*Corresponding Author's email: [oluwagbemiga2013@gmail.com](mailto:oluwagbemiga2013@gmail.com)

### Abstract

This study assessed health care utilization among fishing households in coastal areas of Lagos State, Nigeria. One hundred and twenty (120) fishing households were selected from five purposively selected coastal fishing communities based on intensity of fishing, using a two-stage sampling procedure. Data were elicited with the aid of interview schedule and analyzed using frequency, percentage, mean, standard deviation and binary logistic regression model. Results revealed that 36.7% of the fishers subscribed to health insurance schemes, 72.5% had health care facilities within 10km distance to their communities, and 84.2% spent not more than N5000 on monthly basis on health care. Higher proportions of the artisanal fishers sourced information on health issues from radio (88.3%), interpersonal communications from friends/relatives (58.3%) and community-based health campaigns (5.3%). Also, cholera ( $\bar{x}=2.31$ ), cough ( $\bar{x}=2.15$ ) and catarrh ( $\bar{x}=2.05$ ) were reported as the most common health problems among the fishers. Most of the fishers patronized health care facilities for laboratory tests (84.2%), treatment of minor injuries (84.2%), immunization of children (83.3%), family planning (77.5%), voluntary testing and counseling (66.7%), antenatal care (65.8%), and nutritional support (61.7%). Furthermore, 62.5% of the fishing households utilized modern health care facilities at moderate level. High cost of transportation ( $\bar{x}=1.36\pm 0.919$ ), lack of awareness of health facilities ( $\bar{x}=1.22\pm 0.903$ ), high cost of treatment fee ( $\bar{x}=1.13\pm 0.874$ ), and inadequate health care facilities ( $\bar{x}=1.03\pm 0.842$ ) were serious constraints to health care utilization. Results of binary logistic regression model revealed that gender ( $\beta=-2.540$ , Wald=5.809) and income ( $\beta=0.001$ , Wald=14.561) contributed significantly to the likelihood of fishers' utilization of modern health care facilities at  $p\leq 0.05$ . Results therefore show that modern health care facilities were utilized at moderate levels. The study suggests that artisanal fishers should be sensitized on the need to intensify the patronage of modern health care facilities.

**Keywords:** Artisanal fishing, Coastal fishing, Health problems, Health care utilization, Healthcare

### Introduction

Though neglected with the discovery of crude oil, the agriculture sector remains a viable sector in the Nigerian economy; contributing significantly to the gross domestic product (GDP) of the nation, employment generation and ensuring food security. Agriculture remains the largest sector in Nigeria contributing an average of 24% to the nation's GDP between 2013 and 2019 (Oyaniran, 2020). According to him, the sector remains the highest employer of labor, employing more than 39% of the country's labor force. Between 2016 and 2019, Nigeria's cumulative agricultural imports were estimated at N3.35 trillion; four times higher than the agricultural export of N803 billion within the same period (Oyaniran, *ibid*). This implies that the sector's domestic production is dwindling despite increasing human population. The fisheries sub-sector contributes an average of 2.1% to the agriculture's share of the

Nigerian economy between 2012 and 2018 (KPMG, 2019). According to FAO (2018), global total capture fisheries production was 90.9 million, world per capita supply of fish attained a record high of 20 kg in 2014 (FAO, 2016). Household fish consumption of 13.3 kg/capita/year in Nigeria is lower than the world's average of 20.3 kg/capita/year (WorldFish, 2017; FAO, 2018) because of higher per capita fish consumption in more advanced countries (FAO, 2016). Hence, fishery sector currently contributes less to the country's overall economy because it is lagging behind in its potential (Kebede *et al.*, 2017). Fisheries resource in Nigeria, in spite of its immense contribution to poverty reduction and food security, is an unexploited natural resource (Kebede *et al.*, 2017). Fishing as a business plays crucial role in the development of many nations of the world from the perspective of income and employment generation. Fishing, especially through the coastal

sector, occupies a central position in supporting the livelihoods of fishermen globally and also serves as important source of food to the world's ever increasing population (FDF, 2013; Islam *et al.*, 2016). Lagos is one of the nine coastal States in Nigeria because it borders the Atlantic Ocean. Its contribution to the nation's domestic supply of fish cannot be emphasized as the most active fishing communities are in the State.

Health affects fishing systems *inter alia* fisher's productivity. Poor health results in loss of work days, decreases worker's capacity, reduce innovativeness and opportunities to explore diverse fishing techniques. With respect to readiness of various health-care facilities in providing effective service delivery, Eboreieme *et al.* (2015) observed that there are some lapses in access to health-care facilities across Nigerian geopolitical zones. These disparities have been reported as the major supply-side factor affecting utilization of health care services. Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity and it is a major determinant of the socio-economic development of people and this is in accordance with all human endeavors which require sound minds, sound bodies for full realization of aspirations (WHO, 2016). Sound health is very vital for the Nigerian fisheries industry. According to Olugbamila (2018), a man's health is very important because most economic activities are mainly carried out with sound health. Health care exists to help people maintain this optimal state of health. Good health is essential to handling stress, living a longer and more active life. Both the Nigerian health care services and health status are in deplorable state. Specifically, the residents of coastal areas encounter different health issues including respiratory and skin infections, and Hepatitis, compared to residents on mainland. Therefore, a country that is blessed with healthy people will maximize development initiatives through effective utilization of advanced innovations (WHO, 2015; Condon and McClean, 2016).

Despite the importance of the fisheries sector in the Nigerian economy coupled with the need for healthy fishers to ensure sustainable domestic fish supply, most of the health care centers in the coastal areas where the primary production of fish takes place are not functioning. The health care facilities are characterized with absence of medical doctors and shortage of other medical personnel and drugs. This study therefore seeks to assess health care utilization among fishers in coastal areas of Lagos State. The specific objectives were to ascertain the socio-economic characteristics of the fishers, identify health problems faced by the fishers, identify health services rendered to the respondents, determine the level of utilization of health-care facilities, and identify the constraints to effective health care utilization. The study further tested the hypothesis on the predictors of fishers' likelihood to utilize modern health care facilities at 0.05 significant levels.

## **Methodology**

### ***Sampling procedure***

The study was carried out in Lagos Island Local Government Area (LGA) of Lagos State, Nigeria. A two-stage sampling procedure was employed in selecting 120 fishing households within the study area. Stage 1 involved the purposive selection of five fishing communities namely; Idunatafa, Ebute-Oba, Epetedo, Ilubirin, and Onikan based on high intensity of fishing activities in the selected communities. Stage 2 involved the random selection of about 50% of artisanal fishing households from the compiled list in the selected fishing communities. Though there was no official sampling frame for this study, the researcher, with the help of extension personnel, compiled the list of fishing households for the purpose of this study. Data were collected with the aid of interview schedule which was pretested, validated, and analyzed using frequency, percentage, mean, standard deviation and binary logistic regression model.

### ***Measurement of key variables***

The key variables which constitute the specific objectives of this study were measured as follows:

***Sources of health information:*** This was measured using a 9-item scale at nominal level with response options of Yes (1) or No (2).

***Common health problems:*** This was measured on an 8-item scale on a 4 point rating scale-type response options of Often, Sometimes, Rarely and Never with ordinal scores of 3, 2, 1 and 0 respectively. The mean values for each of the items were used in ranking the health problem items in descending order of importance. Items with mean values of at least 1.50 were considered as common health problems among the fishers, and those with lower mean values were considered otherwise.

***Health services patronized:*** This was measured on a 9-item researcher developed scale at nominal level. The response options are Patronized and Not patronized with nominal scores of 1 and 2 respectively.

***Level of utilization of health centers:*** This was measured on a 5-item researcher developed scale on 3-point rating scale-type response options of Regularly, Occasionally and Never with ordinal scores of 2, 1 and 0 respectively. The mean values will be used in ranking the different kinds of health centers in order of importance.

***Constraints to the utilization of modern health care centers:*** This was measured with an 11-item researcher-developed scale on 3-point rating scale-type response options of Major constraint, Minor constraint, and Not a constraint having ordinal scores of 2, 1 and 0 respectively.

### ***Method of Data Analysis***

Data collected from the interview guide were subjected to both descriptive (frequency, percentage, mean and

standard deviation) and inferential (Chi-square and Pearson's Product Moment Correlation - PPMC) statistics using the Statistical Package for Social Sciences (SPSS). The study hypotheses were tested at 0.05 levels of significance and results of analyses presented in frequency distribution tables and charts.

## Results and Discussion

### *Socio-economic characteristics*

According to Omitoyin and Tosan (2012), a person's age has direct implication on his work experience. Results in Table 1 reveal that the highest proportion (31.7%) of the fishers were younger than 30 years and 18.3%, 17.5%, 14.2% and 18.3% were in the age ranges of 31-40 years, 41-50 years, 51-60 years and older than 60 years respectively. The mean age was found as  $43.24 \pm 19.19$  years. This means that most of the sampled fishers were youths who are in their productive stage of life. This implies that artisanal fishing is in the hands of the youths who are ready to take up the responsibility of supplying fish foods to the people within and outside their fishing communities. The involvement of young adults could be directly linked to the tedious nature of fishing tasks which could be handled by energetic persons as the older generation of fishers may not be able to provide the much needed strengths in the fishing industry. The involvement of both the aged and the young fishers has the tendency of enhancing effective succession plans as the youths learn under the direct tutelage of the older experienced fishers. Based on gender distribution, results reveal that close to two-thirds (65.0%) of the sampled fishers are males, while 35.0% are females implying that artisanal fishing was dominated by the male gender. The dominance of the male gender could be linked to the strenuous nature of most (if not all) fishing activities which may not be easily carried out by their female counterparts. The engagement of more than one-third of the respondents in fishing is a direct negation of most of the earlier studies which had affirmed that fishing was an exclusive domain of the men with some taboos preventing women involvement in direct fishing (Mafimisebi *et al.*, 2016). The finding from this study however corroborates previous studies (Ojebiyi, 2019; Omitoyin and Tosan, 2012; Okeowo *et al.*, 2015; Olaoye, 2010) which reported increasing women involvement in fishing. Results in Table 1 further show that the highest proportion (39.2%) of the fishers are married, followed by those who were single (25.8%), widowed (14.2%), divorced (13.3%) and separated (7.5%). The marital status could be seen as being directly associated with the age distribution of the respondents. Though marriage is highly cherished by rural dwellers, the results imply that marriage was no longer considered as a *do-or-die* affair based on the proportion of fishers who were divorced. Results further show that the sampled respondents had varying levels of education with the highest proportion (40.0%) of the fishers attaining secondary education, while 21.7% had primary education and close to one-quarter (24.2%) had no formal education. This implies that about 75% of the fishers were literate with at least primary level of education. This collaborate the findings of Ikeweinwe *et*

*al.* (2011) and Okeowo *et al.* (2015) which reported that artisanal fishers in Ogun and Lagos States respectively had either primary or secondary education qualifications.

Utilization of modern health care facilities and services could be a function of a person's level of education. This assertion is in consonance with the position of Raghupathi and Raghupathi (2020) who noted that adults with higher educational attainment have better health and life spans compared to their less educated counterparts. This implies that fishers with higher levels of education are likely to utilize modern health care services more than those with lower levels of education, probably because education sensitizes and enlightens one's mind towards the use of modern technologies in general. The highest proportion (62.5%) of the fishers had household sizes of between 6 and 10 persons, while 26.7% had 1-5 persons per household, and the mean household size was  $7 \pm 3$  persons. This implies that most of the fishers had relatively moderate household size which could serve as important but cheap labour source. It could also be stated that the higher the household size, the higher the household expenditure on health care services. Results in Table 1 further reveal that 605 of the fishers had 1-10 years of fishing experience while 20.8% had 11-20 years and the mean fishing experience of  $14.71 \pm 8.23$  years. Though the mean fishing experience showed that the fishers had spent substantial years in fishing, this finding indicates that fishing within the study area was dominated by new entrants. The results further indicated that the highest proportion (44.2%) of the fishers had no other occupation, while 22.5% and 15.8% were into farming and artisanal works respectively. This implies that although other livelihood activities are prevalent in the study area, fishing was the sole occupation of more than half of the sampled fishers. This concurs with the findings of Ologbon *et al.* (2014) who observed that fishing and natural resources collection was the primary occupation of more than two-thirds of riverine households in Southwestern Nigeria. This emphasizes the relevance of fishing to food and livelihood security, poverty reduction, and employment generation in coastal areas of Lagos State, Nigeria. Results in Table 1 also reveal that less than one-quarter (22.5%) of the sampled fishers earned at most ₦10,000 per monthly, while 44.2% earned between ₦10,001-30,000 and 33.3% earned more than ₦30,000. The mean monthly income of the fishers was ₦26,837.50  $\pm$  18,654.326. This implies that on the average, the fishers earned just slightly lower than the national minimum wage of employees in corporate organizations. The high value of the standard deviation is an indication that there are wide variations in the monthly income of the fishers.

### *Sources of health information*

Results in Table 2 show fishers' subscription to health insurance scheme, distance between fishers' homes and the nearest health care centers, estimated monthly expenses on health and fishers' sources of health-related information. Results reveal that just about one-third

(36.7%) of the fishers subscribed to health insurance schemes. This implies that relatively fewer fishers subscribed to insurance scheme. It could also be connected to the expensive nature of the health insurance packages to fishers as they are not employees of corporate organizations. It was also found that health care facilities were within 10km distance to the fishing communities of majority (72.5%). This implies that most of the fishers had health centers very close to them, while some would have to travel more than 10km before getting to the nearest health centers for treatment. This implies that distance may be an impediment to utilization of health care services as cost of transportation and stress resulting from poor roads could prevent people from visiting the health centers for medical treatments. It was also evident that majority (84.2%) of the fishers spent at most N5000 on monthly basis to treat themselves while 10% spent more than N5000, which implies that almost all the fishers are conscious of their health by spending on treatment. Majority of the fishers indicated that they sourced information on health issues from radio (88.3%), interpersonal communications from friends/relatives (58.3%) and community-based health campaigns (53.3%), while fewer proportions made use of newspapers (43.3%), internet (35.0%), hospitals (24.2%), Ministry of Health (20.8%), World Health Organization (10.8%) and medical journals (7.5%). This implies that radio, friends/relatives and community-based campaigns play significant roles in disseminating health related information among the fishers in coastal areas of Lagos State.

#### **Common Health problems among fishers**

Results on the health problems associated with the fishers are presented in Table 3. Based on the mean values, it was evident that cholera ( $\bar{x}= 2.31$ ), cough ( $\bar{x}=2.15$ ) and catarrh ( $\bar{x} = 2.05$ ) were the common health problems among the fishers, and were ranked in terms of occurrence as first, second and third most occurring health problems respectively. Other health problems such as skin infection ( $\bar{x}= 1.34$ ), stomach cramps and pain ( $\bar{x}= 1.14$ ), typhoid ( $\bar{x}=0.92$ ), dysentery ( $\bar{x}= 0.42$ ), and hepatitis ( $\bar{x}= 0.66$ ) were not considered as common because they had mean values of less than 1.50. The main reason for exposure to the common health problems could be linked to the immersion in water during their fishing activities at almost every time at night, very early in the morning and even in the afternoon. It is therefore implied that the most common health problems were directly related to the nature of their occupation. According to Endurance *et al.* (2014), environment is one of the factors influencing individuals' health status. As such clean water, air, adequate housing and safe communities, good roads, proximity to health centers contributes to good health.

#### **Health Services patronized by fishing households**

The health services patronized by the fishers are presented in Figure 1. It reveals that higher proportions of the sampled fishing households reported that they patronized health care centers for laboratory tests

(84.2%), treatment of minor injuries (84.2%), immunization of children (83.3%), family planning (77.5%), voluntary testing and counseling (66.7%), antenatal care (65.8%), and nutritional support (61.7%). This means that marriage contributes to health care utilization among the fishing households. The findings imply that laboratory tests and treatment of minor injuries were the most commonly patronized health services in the coastal fishing communities of Lagos State, Nigeria. According to Oyekale (2017), the quality of health services rendered can be properly assessed from availability of medical equipment's and drugs. This is essential in order to facilitate delivery of efficient and timely services to health care users.

#### **Level of utilization of health care facilities**

As shown in Table 4, community health center has the highest mean value of utilization ( $\bar{x}= 1.36\pm 0.801$ ), followed by State general hospital ( $\bar{x}=1.27\pm 0.742$ ), Federal Medical Center ( $\bar{x}= 1.11\pm 0.877$ ), traditional health centers ( $\bar{x}= 1.01\pm 0.655$ ), while the private maternity homes and clinics has the least mean value of  $0.58\pm 0.741$ . The findings imply that community health centers were the most utilized health facility among fishers in coastal areas of Lagos State. This is an indication that the government at all levels is being proactive in the provision of health facilities. This could imply that the government is concerned about the health and general well-being of the citizens, including the fishers in coastal areas of Lagos State. Fishers' utilization of community health centers at high level is directly linked to the close proximity of these facilities to the fishing communities as well as the perceived low cost associated with primary health centers. High patronage of public health centers at low cost explains why there is low utilization of private health centers which the fishers would have considered as expensive. The fishers' utilization of State and Federal health facilities probably resulted from referrals made by the community health facilities as they are mostly incapacitated by necessary equipment to render sophisticated health services (Omoleke and Taleat, 2017). According to Olugbamila (2018), the federal, state, local governments have made conscious efforts at providing and equipping health facilities and recruitment of more health work force to make health services more accessible to the people through the referral system.

Figure 2 shows that the highest proportion (62.5%) of the fishing households utilized health care facilities at moderate level, while the facilities were utilized at either low level or high level by 16.7% of the fishers. This implies that though majority of the fishing households utilized health care facilities, they were only utilized at moderate level. That is, health care facilities were not utilized at all times.

#### **Constraints to health care utilization of respondents**

Table 5 revealed that high cost of transportation to health facilities ( $\bar{x}= 1.36\pm 0.919$ ), lack of awareness of health facilities ( $\bar{x}= 1.22\pm 0.903$ ), high cost of treatment

amount paid for service ( $\bar{x}= 1.13\pm 0.874$ ), and inadequate health care facilities ( $\bar{x}= 1.03\pm 0.842$ ) were serious constraints to the utilization of health care facilities by the fishers. On the other hand, other items such as low household income ( $\bar{x}= 0.83\pm 0.774$ ), poor attitude of the health workers especially the nurses, non-availability of drugs and other medications, religious/cultural beliefs, inadequate health workforce and insufficient hospital bed spaces were not considered as serious problems. This implies that the factors limiting health care utilization could be linked to both demand and supply sides. The supply sides are the ones dealing with adequacy of health care facilities, while the demand factors are those concerned with cost of transportation and treatment as well as lack of awareness of health facilities by some fishers. This is in consonance with the findings of Eborieme *et al.*, (2015) who identified the major constraints to utilization of health care services to supply-side factors. Olugbamila (2018) also stated that distance travelled to get health care service is one of the factors influencing attendance at such a facility, and that the longer the distance between the settlements, the less will be the patronage pattern of the health facility. Ajayi and Akpan (2017) pointed out that high service fee was among the factors preventing people from visiting clinics. In the study by Muhammed *et al.* (2013), lack of essential drugs, high cost of services and inadequate infrastructure were among the reasons for non-utilization of primary health care services.

#### ***Predictors of fishers' likelihood to utilize modern health care facilities***

As shown in Table 5, The Percentage accuracy in classification = 87.5 and Nagelkerke R Square was 0.553, implying that only 55.3% of the variation in the utilization of modern health care facilities was explained by the model, but that about 88% of the predictions were accurate. Results in Table 5 further

reveal that the gender ( $\beta = -2.540$ , Wald = 5.809) and income ( $\beta = 0.001$ , Wald = 14.561) contributed significantly to the likelihood of fishers' utilization of modern health care facilities at  $p\leq 0.05$ . This implies that the utilization of modern health care facilities was 0.079 times greater for male in contrast to the females. Also, increasing monthly income was associated with an increased likelihood of using modern health care facilities. Though not statistically significant, results from the model indicated that married fishers and those who subscribed to insurance scheme are more likely to utilize modern health care facilities than their single and non-member counterparts.

#### **Conclusion**

It was deduced that government-owned health centers were more utilized than privately-owned health centers with health care facilities being utilized at moderate levels. The study concluded that level of health care utilization was significantly predicted by fishers' gender and monthly income. Based on the findings from this study, it was recommended that:

1. Government and other stakeholders should provide health facilities in all fishing communities in order to reduce the distance covered and transportation cost of accessing health facilities.
2. More community-based campaigns should be organized across fishing communities on the awareness of available health care facilities and other health-related issues such as family planning, immunization, nutrition, etc.
3. Health care facilities should be patronized by all fishers to treat health-related problems.
4. Government should provide affordable health care services to residents of fishing communities.

**Table1: Socio-economic characteristics of respondents (n=120)**

Socio-economic variables	Frequency	Percentage	Mean ± Standard deviation
<b>Age (years)</b>			
≤30	38	31.7	43.24±19.19 years
31-40	22	18.3	
41-50	21	17.5	
51-60	17	14.2	
>60	22	18.3	
<b>Gender</b>			
Male	78	65.0	
Female	42	35.0	
<b>Marital status</b>			
Single	31	25.8	
Married	47	39.2	
Widowed	17	14.2	
Divorced	16	13.3	
Separated	9	7.5	
<b>Level of education</b>			
No formal education	29	24.2	
Primary education	26	21.7	
Secondary education	48	40.0	
Tertiary education	17	14.2	
<b>Household size (persons)</b>			
1-5	32	26.7	7±3 persons
6-10	75	62.5	
>10	13	10.8	
<b>Fishing experience (years)</b>			
1-10	72	60.0	14.71±8.23 years
11-20	25	20.8	
21-30	15	12.5	
>30	8	6.7	
<b>Other occupations</b>			
None	53	44.2	
Civil service	5	4.2	
Trading	16	13.3	
Farming	27	22.5	
Artisan	19	15.8	
<b>Estimated monthly income (₦)</b>			
≤10000	27	22.5	₦26837.50±18654.326
10001 – 30000	53	44.2	
>30000	40	33.3	

*Source: Field Survey (2021)*

**Table 2: Health-related information**

Health-related information	Frequency	Percentage
<b>Subscription to health insurance scheme</b>		
No	76	63.3
Yes	44	36.7
<b>Distance to health centers (km)</b>		
1-10	87	72.5
>10	33	27.5
<b>Estimated monthly expenses on health (₦)</b>		
0	7	5.8
≤5000	101	84.2
>5000	12	10.0
<b>Sources of health-related information</b>		
Radio	106	88.3
Friends/relatives	70	58.3
Community-based health campaigns	64	53.3
Newspapers	52	43.3
Internet	42	35.0
Hospitals	29	24.2
Ministry of Health	25	20.8
World Health Organization	13	10.8
Medical journals	9	7.5

Source: Field Survey (2021)

**Table 3: Common Health problems among fishing households**

Health problems	Mean±SD	Remarks	Ranking
Cholera	2.31±0.915	Common	1 <sup>st</sup>
Cough	2.15±0.923	Common	2 <sup>nd</sup>
Catarrh	2.05±0.915	Common	3 <sup>rd</sup>
Skin infection	1.34±1.017	Not common	4 <sup>th</sup>
Stomach cramps and pain	1.14±1.04	Not common	5 <sup>th</sup>
Typhoid	0.92±1.026	Not common	6 <sup>th</sup>
Hepatitis	0.66±0.893	Not common	7 <sup>th</sup>
Dysentery	0.42±0.875	Not common	8 <sup>th</sup>

Source: Field Survey (2021)

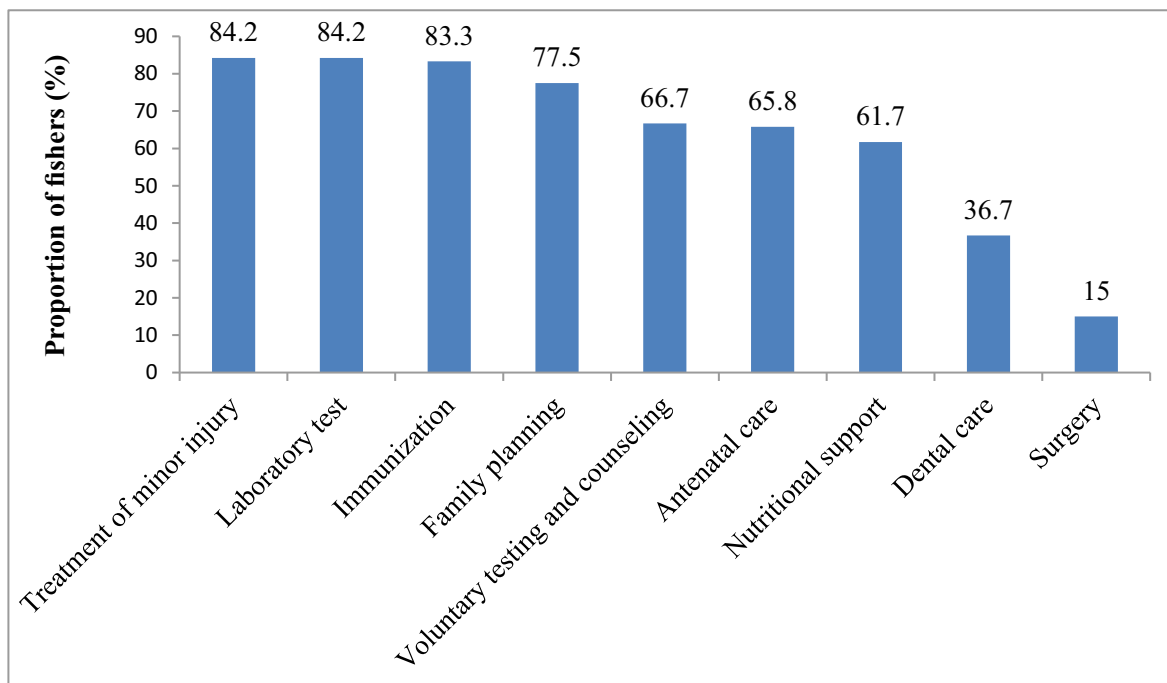


Figure 1: Health Services patronized by fishers

Multiple responses were reported

Source: Field Survey (2021)

**Table 4: Utilization of different health care facilities by fishers**

Health care facilities	Mean±SD	Ranking	Remarks
Community health centers	1.36±0.801	1 <sup>st</sup>	High utilization
General hospitals (State)	1.27±0.742	2 <sup>nd</sup>	Moderate utilization
Federal Medical Centers	1.11±0.877	3 <sup>rd</sup>	Moderate utilization
Traditional health facilities	1.01±0.655	4 <sup>th</sup>	Moderate utilization
Private maternity homes and clinics	0.58±0.741	5 <sup>th</sup>	Low utilization

Source: Field Survey (2021)

**Table 5: Variables in the equation**

	$\beta$	S.E.	Wald	df	Sig.	Exp (B)
Age						
Gender(1)	-2.540	1.054	5.809	1	0.016*	0.079
Marital status(1)	0.417	0.957	0.190	1	0.663	1.518
Education(1)	-1.749	0.988	3.132	1	0.077	0.174
Farm size	-0.001	0.119	0.000	1	0.996	0.999
Experience	0.013	0.031	0.173	1	0.678	1.013
Other occupation(1)	-0.770	0.788	0.956	1	0.328	0.463
Insurance scheme(1)	0.961	0.692	1.928	1	0.165	2.615
Income	0.001	0.001	14.561	1	0.001**	1.000
Expenses	0.001	0.001	0.003	1	0.960	1.000
distance	-0.018	0.051	0.131	1	0.717	0.982
Constant	9.263	2.571	12.975	1	0.000	10538.761

Percentage accuracy in classification = 87.5; Nagelkerke R Square = 0.553. \* and \*\* indicate significant predictors at 0.05 and 0.01 levels of significance respectively

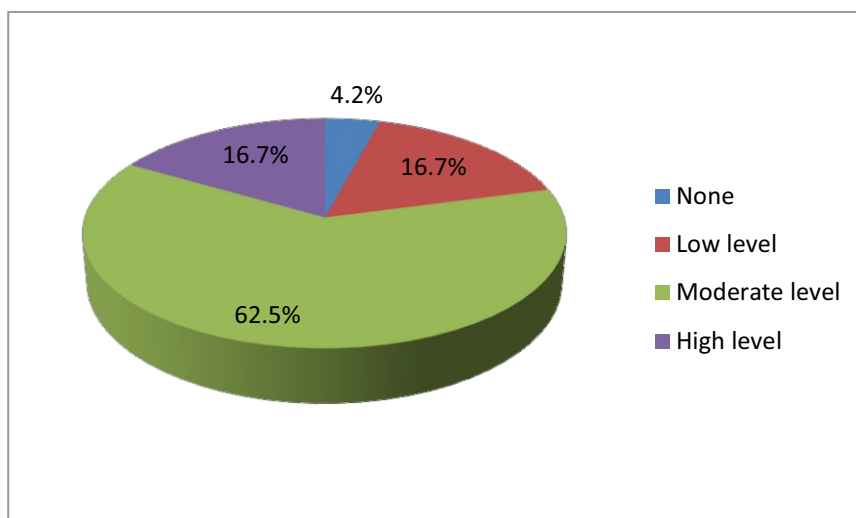


Figure 2: Distribution of fishers by level of utilization of health care facilities

**Table 5: Constraints to health care utilization by fishers**

Constraints to health care utilization	Mean±SD	Remarks	Ranking
High cost of transportation to health facilities	1.36±0.919	Serious	1 <sup>st</sup>
Lack of awareness of health facilities	1.22±0.903	Serious	2 <sup>nd</sup>
High cost of treatment	1.13±0.874	Serious	3 <sup>rd</sup>
Inadequate health care facilities	1.03±0.842	Serious	4 <sup>th</sup>
Low household income	0.83±0.774	Not serious	5 <sup>th</sup>
Poor attitude of the health workers especially the nurses	0.73±0.719	Not serious	6 <sup>th</sup>
Non-availability of drugs and other medications	0.67±0.843	Not serious	7 <sup>th</sup>
Religious/cultural beliefs	0.65±0.774	Not serious	8 <sup>th</sup>
Inadequate health workforce	0.62±0.747	Not serious	9 <sup>th</sup>
Insufficient hospital bed spaces	0.59±0.783	Not serious	10 <sup>th</sup>



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