

An Assessment of the Level of Affordability of Eye Health Care Services and Products in the Gambia – Case Study Onesight

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Abstract:- Health care services and in particular eye care in The Gambia is plagued by exorbitant costs both direct (consultation fee, cost of medication/glasses, etc.) and indirect (cost of transportation to and from eye clinic, cost of food/sustenance during eye treatment etc.) making it luxury and barrier for the poor and vulnerable of our societies. It is for those reasons that OneSight decided to commission a survey in The Gambia. The sampling of the study was a multistage stratified cluster sampling. At each stage Probability Proportional to Size and random procedures were applied to arrive at the actual sample population of 3300 households. The study employed both quantitative and qualitative research design techniques to collect and analyze data. The finding of the study illustrated that nearly 70% of the household's heads are willing to be the one to pay for corrective glasses should the need arise for any member of their household. 80% of the respondents reported in affirmative that there are costs required in making eyesight better. It was also disclosed that respondents are willing to pay for a pair of eye glasses GMD 0 (free eyeglasses) to GMD 20,000. The Focus Group Discussion conducted across The Gambia almost all participants unanimously recommended that the affordable cost for a pair of glasses should be GMD50.

Keywords:- Eye Health Care Services; Eye Health Care Products, OneSight, Affordability, Cost, Glasses, The Gambia.

I. INTRODUCTION AND BACKGROUND

This study was commissioned by OneSight to assess the impact it has made in the Gambia in terms of three main pillars amongst which are, *awareness*, *access*, and *affordability*. The focus of this paper is on one of that pillars-*affordability of OneSight eye health care services and products*. Over past years, huge investment and efforts have been made by OneSight and its partner institutions to create awareness and provide accessible and affordable eye care services to Gambians across the country. However, since its launch in The Gambia, it has not conducted any empirical studies to assess the impact it has made on people. Hence the main thrust of this paper. The

significance of this study cannot be overemphasized for the following 5 reasons:

- It will provide a much-needed body of literature on the affordability of health eye care products and services in The Gambia
- It will establish insights on the level of affordability of the services and products of OneSight and inform the future course of action for the organization in terms of programming, expansion, communication strategy, pricing, etc.
- Its outcome will inform and guide the policy of OneSight
- It will provide an empirical and independent finding for the first time into the impact of the OneSight's Eye Care services in The Gambia.
- In order to support future policies, programming, and planning efforts of OneSight in The Gambia, it is important to have an up to date information on the level of affordability of eye care services and products offered by the organization.

A. OneSight Objectives

The primary objectives of OneSight's intervention in The Gambia are to achieve:

- 80% aided or unaided awareness of the problem among heads of households who can make financial decisions for household related to health care (target population);
- Non-heads of households to be surveyed too for information purposes since they may later become survey population during the longitudinal duration of the study – these will not be counted as part of the total survey population.
- 80% of the target population aware of the solution;
- 80% of the target population aware of price;
- <10% say they cannot afford them.
- The survey will be repeated every 2 years with the objective to track the change in awareness over time.

B. Study Objective

This study assessed the level of affordability of eye health care services and products of OneSight to the people across the country, with a view to drawing inferences on what is perceived as affordable eye health care services.

II. LITERATURE REVIEW

Given the general level of poverty, coupled with the high cost of health care services in The Gambia, this has resulted in making health care services exorbitant for a good number of Gambians and residents alike. The cost of eye health care can be divided into direct cost e.g. consultation fee, cost of medication/glasses etc. and indirect cost e.g. cost of transportation to and from eye clinic, cost of food/sustenance during eye treatment etc. this study assessed the level of affordability of eye health services and product of OneSight.

Affordability of healthcare services including eye care service is influenced by the income of the consumer (eye patient), the cost of the eye care services and other socio-demographic factors which may vary from developing to developed nations. (Ntsoane & Oduntan, 2010) buttressed as highlighted by Naidoo et al., that if eye care service is free, there still exist some hidden cost associated with eye care treatment making the cost of treatment unaffordable to the poor. Their paper further noted that poverty is a major issue affecting affordability of eye care health services, hence patients from poor economic background are not able to afford the cost of eye care services and therefore conditions which could have been treated at an early stage are not attended to and may result in low vision and blindness, thus making the costs of treatment exorbitant and beyond reach of the poor and marginalized of society.

(Ntsoane & Oduntan, 2010) reviewed numerous studies by various authors identifying issues related to barriers to affordable eye care services in Ethiopia, Kenya, Nigeria, and The Gambia. They pointed out that the prevalence of visual impairment is high in Ethiopia and eye care services utilization is limited, the main barrier has been attributed to the indirect costs of the services which the patient must incur before treatment. Habte et al., suggested that indirect cost of surgery was one of the main barriers to uptake surgical treatment for “trachomatous trichiasis” in the North of Ethiopia. Rabi and Mpyet et al., reported that cost was the most common reason for not seeking treatment for cataract in parts of Nigeria. Likewise, Nedgwa et al., reported that lack of money was one of the main barriers to eye care services use in Kenya; and in The Gambia, the most frequently identified barrier to uptake cataract surgery was cost. The aforesaid demonstrates that costs of treatment both direct and indirect costs are major obstacle to patients acquiring treatments.

A study on the barriers to utilization of eye care services in rural communities in Edo State, Nigeria (Ebeigbe & Oveneri-Ogbomo, 2014), elucidated on some of the modalities which can be utilized to make eye care affordable and reduce its cost. They noted that implementing different pricing mechanisms to make sure that the poor can be treated even if they cannot pay, will enhance the affordability of eye care treatment for the poor. According to their paper distance as a barrier could also be reduced by setting up outreach programs in rural areas and providing transport from villages direct to the hospital and

back. The ability of eye care providers to ensure community participation and to provide quality eye care during outreach programs would efficiently market eye care services. Hence these outreach services will increase the goodwill and reputation of eye care service providers, servicing as a significant social capital for them while at the same time making eye care health services not only accessible but also affordable to the poor and deprived.

According to (Pradhan, 2011), in studying affordable eye care models for developing countries pointed out the three core principles for any category of hospital be it small or big are as follows: firstly, the hospital has to maintain high volume, high quality and affordable service facility to optimize the resources available (scale economies). Secondly, the hospital has to reach out to the population and do proactive screening for eye conditions to ensure a regular flow of patients to the hospital and also for early detection and early treatment to avoid blindness in the population (creating demand for service utilization) and finally, the hospital has to ensure a regular flow of patients and optimum utilization of the capacity of the hospital (resource optimization). These three core principles are apt for ensuring that developing countries ensure that eye health care services reach a huge amount of patients at a low cost to the hospital thereby making the services affordable to patients. Secondly, the outreach program will aid early diagnoses and treatment while at the same time create demand and increase demand for eye care services. Finally, the last principle is to ensure that eye care facilities and resources are utilized effectively and efficiently.

(Lindfield & Foster, 2008), in their study noted a range of issues on affordable eye care services. They also raise some salient questions on affordability. They highlighted that affordable eye care services depend both on the price of health intervention and on the financial means of the person or organization paying for it. They further went on to explain that the cost of the intervention or service, and therefore its price, should be kept as low as possible through efficient business practices, e.g. high productivity and no wastage by only using what is essential for quality services delivery. Their paper pointed out that health care can be paid for in several ways: by the government, by the user or family, by another party such as a private company (e.g. health care insurance), or by a nongovernmental development organization. As noted by them the ability of these organizations or individuals to pay for health care will influence the level of service. However, if the care needs to be free to some sectors of society, they explained that the cost must be subsidized. Sometimes, a family member will pay the fees or the government may provide free health care. Their study highlighted that the more affluent in society may pay more for services, thereby subsidizing services for the poor through a multi-tier paying similar to a social business model where the rich pay some fees for the poor while both the rich and poor receive the same services.

(Hannah, Sillah, & Bah, 2006), In the Community Eye Health Journal, elucidated on the issue of how sustainable is the Health For Peace Initiative (HFPI) eye program. They buttressed that The Gambia and Guinea-Bissau are implementing cost-recovery programs and the Bamako Initiative, with the perspective of ensuring the availability of all the essential drugs at all levels of health service delivery. Bamako Initiative as they pointed out is an initiative that aims to strengthen the primary health care services through cost-sharing and co-management. Under the aforementioned initiative, essential drugs are provided and made available to health facilities. Funds generated from the respective facilities are banked by their respective health committees and subsequently used to replenish drugs.

Their paper noted that Sightsavers International and Christian Blind Mission International were the main eye care supporters of the initiatives. In another development they clarify that funds for the construction of the Regional Eye Centre were provided by the Sheikh Zayed Foundation, however, they stressed that the project will face the challenge of meeting the running costs of the Regional Eye Centre. Hence sustainability of the program will be at jeopardy and thus creating a problem for patients to afford eye care services provided by the Regional Eye Centre (Lindfield & Foster, 2008).

III. METHODOLOGY

A. Survey Design

Generally the design of any sample survey, the sample size depends to a large extent on three key factors:

- The population size.
- The extent of variation in the population with respect to key characteristics of the study.
- The degree of accuracy desired.

Furthermore, the sample size needs to be sufficiently large to allow for meaningful analysis bearing in mind the objective of the study.

Against this backdrop, the sample size for this survey was set at $n = 3000 + 10\%$. The base size of 3000 would give 95% confidence of a difference between 30% and 40% awareness. Total of 3300 target respondents – the person in the family who can make all/some of the healthcare related financial decisions for the household was deemed sufficient because it would provide enough case for analysis.

B. Sample Selection

For this study, the unit of measurement is the household of which individual respondents were drawn from across the whole country within the selected districts and settlements in each of the sampled districts. Thus, both the research team and the organization commissioning the survey technically have chosen a sample size of 3300

households across the country in 30 districts. This is considered sufficiently large enough to cater for sampling errors and representation.

Rural population accounts for the remaining 40% of the total sample size of 3300 that comprises 1320 had been sampled using the Probability Proportional to Size (PPS) approach from (Bennett, Lony, Winitha M., & Smithd, 1988), with the remaining districts. There were 10 clusters sampled in the Eastern region and 10 in the Western region within the rural Gambia.

In order to have a sample that is representative of the country and to avoid conducting interviews in rural areas with a scattered population, a multistage stratified cluster sampling was technically considered as the most appropriate and had been adopted with some adjustments in the urban areas without affecting the sample allocations proposed for the urban. In each stage, PPS and random procedures were applied to arrive at the actual samples as indicated in the sample design.

The Region is automatically the first stage, the second stage focuses on the Districts, and settlements within the districts in the regions was the third stage. In each of the selected districts, the settlements were further stratified into smaller clusters according to the population size of the settlements to allow for their representation into the sample using PPS. The final stage targeted individual respondents or any member of the family who can make all/some of the healthcare related financial decisions for the household for interviews in each of the selected sample settlements across the districts within the regions. Hence, the households were the final unit of sampling for study.

C. Questionnaire Design

Further to the finalization of the sampling process, questions for the survey were designed and shared with OneSight for consensus building and approval. The questions were designed based on the key variables of the study which includes: Awareness of refractive errors – (unaided and aided) awareness, Awareness of solutions to refractive errors, Access, and Affordability to eye care services, in addition to the demographic and socioeconomic characteristics of the households. ***The focus of this paper is on the Affordability component of the study.***

D. Data Collection, Cleaning, and Analysis

Respondents were more willing to participate in the survey in the rural areas than the urban areas because in the urban centers the enumerators had to book an appointment with respondents and wait for their call back before proceeding with its administration. The reason was that urban dwellers are working class and more economically well-off than their rural counterparts. We used Excel for data entry and cleaning whiles STATA was used for data analysis.

IV. DISCUSSION OF RESULTS

A. Quantitative Findings

We begin with an analysis of willingness to buy a pair of glasses, nearly 70% of household’s respondents (Head of household) will be the one to pay for corrective glasses should the need arise for any member of the household. Only 6% of respondents indicated that the person affected would be responsible for the payment. Others constituted a significant proportion of responses to this question about 27%, see table 1 below. Others here refer to any member of the household, clan, community, and religious leaders who

would be willing to pay as a result of the social networking and communal system practiced in the rural Gambia. Often times when individuals and families have social and health-related problems, they go to the mosque to seek support from the community.

Considering the importance of health, in particular, eye-related problems the findings show that 72% of households prefer to buy glasses for both sexes. Hence, households’ gender differentials are very low, as indicated in Figure 1 below.

Willingness to Buy Corrective Glasses	Count	Percent
Respondent	2318	67.0%
Person him/her self	210	6.1%
Others	932	26.9%
Total	3460	100%

Table 1:- Willingness to Buy Corrective Glasses

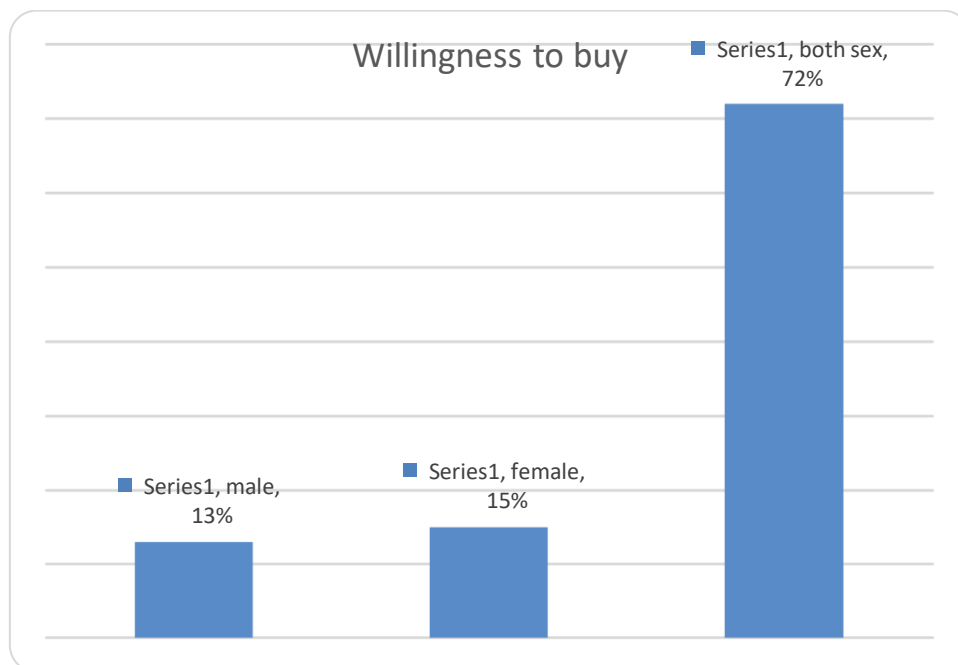


Fig 1:- Willingness to Buy Glasses by Gender.

On the analysis of willingness to pay for eyeglasses revealed that in The Gambia, respondents are willing to pay ranging from GMD 0 (free eyeglasses) to GMD 20,000 for a pair of eyeglasses. This reflects the rural-urban variances in terms of their socioeconomic backgrounds. However, the national average willingness to pay by respondents is GMD 261.47 (US \$6)¹. The rural average is GMD 220 and the urban average is GMD 311, see figure 2 below. This corroborates the fact that poverty in the Gambia has a rural-urban dimension. Urban dwellers are willing to pay more than the rural dwellers because of their level of education and awareness of health-related issues. While as in the rural areas the majority of the people’s level of awareness of health-related issues is relatively low.

¹ US \$ exchange rate at GMD43.58 = US \$ 1

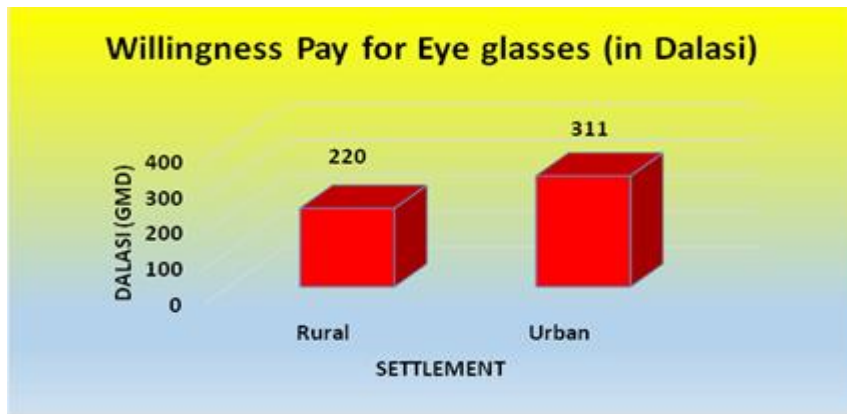


Fig 2:- Willingness to Pay by Settlement

The analysis of the average willingness to pay by respondents varies by region within the rural and urban settlements. As recorded by the findings the average costs that the respondents are willing to pay for eyeglasses accounted for GMD 273 in Banjul, GMD 337 in Kanifing and GMD 202 in West Coast region, see figure 3 below. It can be observed in the analysis that Kanifing accounted for the highest GMD 337. This could be associated with the fact that Kanifing is the economic hub of The Gambia, where most of the economic activities are taken place.

On the contrary, the rural average willingness to pay for eyeglasses constituted GMD 333 in the North Bank Region, GMD 171 in Lower River Region, GMD 204 in Central River Region and GMD 199 in Upper River Region. See figure 3 below. These figures are consistent with the poverty studies conducted in this country, that the further you move away from Greater Banjul Area poverty increases as it is reflected in the findings. Thus, it is evident that the respondents from the poorest region in the country, LRR are willing to pay the lowest amount for eyeglasses.

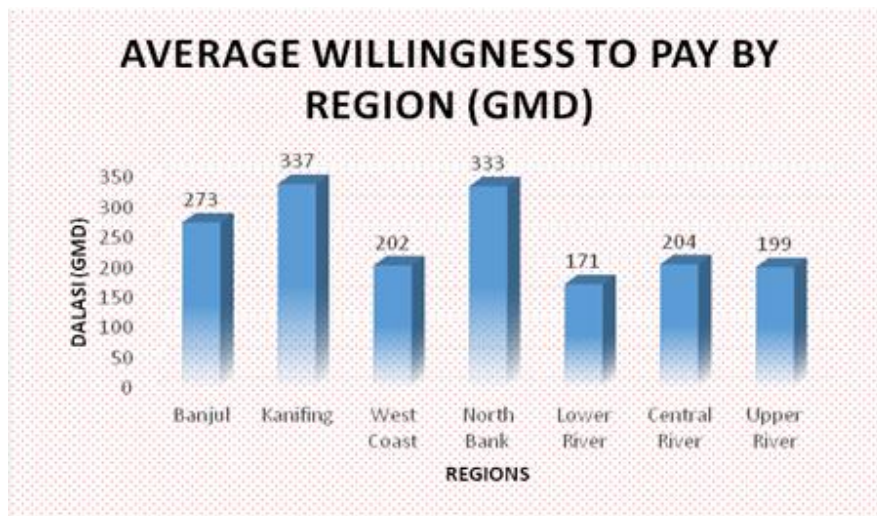


Fig 3:- Willingness to Pay by Region

The analysis on the issue of affordability disclosed that more than 80% of the respondents reported in affirmative that there are costs required in making eyesight better. However, 18.6% reported otherwise (5.8% no & 12.8% don't know), see table 2 below. The respondents who confirmed their knowledge about the costs required also raised concern regarding the hidden costs. They lamented eye health care services have both direct and indirect costs as a burden on their service utilization, e.g. cost of medication, food, and cost of transportation. These two costs make health care expensive and unaffordable to the poor and vulnerable members of our societies.

Cost of Treatment	Count	Percent
Yes	2842	81.34%
No	204	5.84%
Don't know	448	12.82%
Total	3494	100%

Table 2:- Cost required in Making Sight Better

As is evident in the figure below 4, the same trend follows in all the regions that, the respondent knows about the cost required in making eyesight better. Only very few respondents (17.8%) said they have no idea whether a cost is required in making sight better.

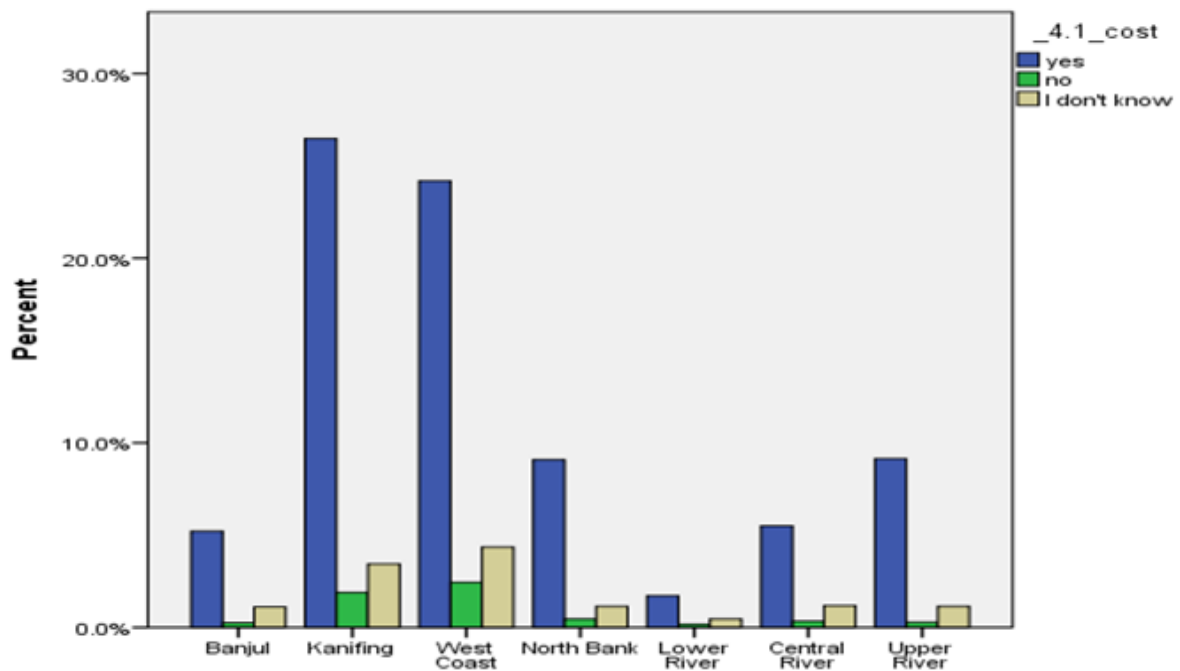


Fig 4:- Cost Required in Making EyeSight Better by Region

Figure 5 below shows respondent's in household willingness to purchase corrective glasses for either male, female or giving equal chance to both genders by region, most of our respondents said there are indifferent i.e. they will give equal chance to both male and female family members. This response is most pronounced in Kanifing Municipality and West Coast Region. The response of respondents to that question is in conformity with figure 1 above.

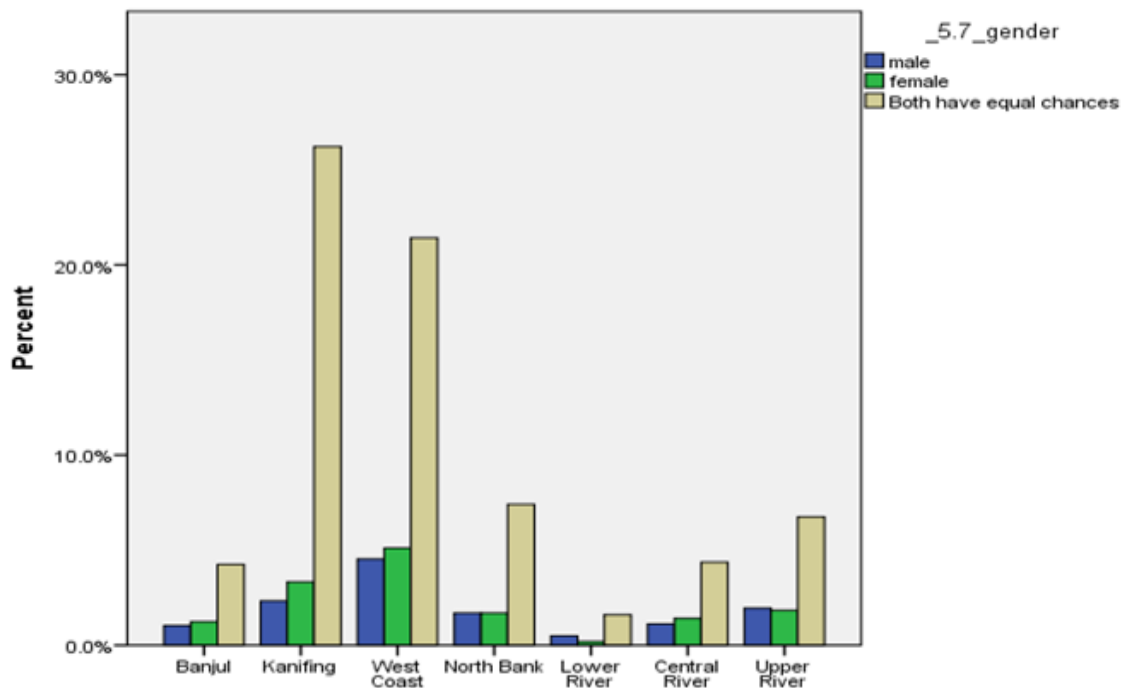


Fig 5:- Willingness to Purchase Corrective Glasses by Gender & Region

B. Qualitative Findings

The qualitative aspect of the study entailed Focus Group Discussions (FDGs) that was done in 28 districts in the Gambia. The analysis of the FDGs is discussed below.

Affordability of any service is constrained by demand and supply and other associated factors. Demand, in general, is determined by one's economic status that is the propensity to pay for the service, given that the said service is supplied. In this study, the issue of affordability has been discussed in relation to the cost of the services provided and the cost of glasses. Other associated cost involved transportation and testing and/or diagnosis of the refractive errors to ensure recommending appropriate glasses for the patients. The key issue discussed centered on the cost of glasses in all the focus groups. On the issue of what the FDG participants thought would be the affordable cost of a pair of glass: In response, more than 70% of the communities recommended GMD50.00 in all regions given

the poverty levels, economic stagnation with no jobs and the prevailing political atmosphere with a dictator controlling the mantle of affairs of the nation at that time.

Going by the findings of the FDGs, participants generally complained of the cost of transport, treatment, and glasses across the whole country. This is perhaps due to the uneven and disperse distribution of available eye care service centers in the country; further exacerbated by poverty, and also the fact that eye care centers are all either located in Greater Banjul Area, or in the few growth centers, and/or regional headquarters in The Gambia makes access difficult and costly.

According to the FDGs conducted in the North Bank Regions of River Gambia, participants raise concern about some of the associated cost of affordability as quoted in the box below:

“Today we know where to go but the cost of transport and treatment is the problem. The appointments are many and costly from Mondays to Thursdays. You spend almost GMD1000 with an ID and without ID, pretty expensive. We prefer something far cheaper as the ‘eye controls the human existence’ (BOT MO YOREE DOM ADAMA). I will do whatever it takes to get it fixed. Going to Farafenni may cost more than GMD100, the ticket is GMD25, glasses cost between GMD250 –more than GMD1000, excluding medication and food” – Pallen Wollof.

“Cost of the glasses should be tailored to what people can afford. If you want to help, those who cannot afford the help has to be reasonable, simple, affordable and within reach. GMD50 will help the poor” – Ndungu Kebbeh.

“I was diagnosed with an eye infection and I was recommended to buy glasses which will cost GMD250 but I could not afford it and up to date, I am without it. Kerewan is the nearest place and sometimes the cost can be around GMD1000” – Suwareh Kunda.

On the South Bank regions of River Gambia, similar sentiments regarding affordability have been expressed. The whole problem of affordability has direct bearings on access as an added cost to the services and glasses. As the service providers are far away from those who are affected and need treatment the most, thus marking affordability a big problem for the poor. The focus group discussions with participants in the east of GBA, revealed the followings as quoted in the box below:

“All those I know who visited bought their glasses at GMD150, which is not bad for the poor and farming communities” – Sankandi.

“All those I knew who went to Bwiam for treatments are all okay. Some got glasses but I don't know how much it cost them. I believe the glasses also will depend on the type of eye infection and prescription. I would prefer the glasses to cost no more than GMD50” – Sintet Tamba Kunda.

“I went to Kanifing to get treatment and after testing and diagnosis; I was prescribed to buy medicine from the pharmacy which cost me GMD75. I am also recommended to buy glasses at GMD250 but I am yet to do so because of lack of money. I would recommend for the glasses to be sold at GMD50 to allow even the poor to afford it. My ‘eyes-drop’ medication, I am recommended to use is still working but has taken the illness longer to disappear” - Mayork.

“We would require more eye care service facilities around the country and would propose the glasses to be sold at GMD25 if not for free” – Kafuta.

Participants contacted for FDGs within Greater Banjul Area also expressed their opinions with respect to affordability of eye care services more particularly on refractive errors.

*“The glasses if not given for free should not be sold at more than GMD100” – **Tujereng.***

*“The glasses they sell are very expensive. So, the best price for the glasses that the poor can afford is GMD50” – **Jambajelly.***

*“People buy glasses at GMD250 and above but we are proposing GMD50 or below if possible” – **Jalanbang.***

*“I have eye problem but always go to the hospital, I even got my dark glasses there, which I bought at GMD150. We would prefer the prices of the glasses to be lowered to GMD50. I was prescribed to buy lens, which I was unable to do because it is very expensive, costing GMD1,250” - **Brikama Wellingara.***

Invariably, participants in the urban areas (KMC and Banjul) have their versions of the story explained in the ensuing statements as quoted:

*“With my eye problem, after testing, diagnosis, the medicine that was prescribe for me cost GMD750 and I bought my glasses at GMD250” – **Kanifing.***

*“The cost of glasses is very expensive for the ordinary Gambia, so we will recommend GMD50 as the new price for glasses” – **Kanifing.***

In Banjul, it is surprising to note that, the FGDs conducted across the three districts generally recommended D50 for the cost of glasses as suggested by most of the groups the team had FGDs with. These are what they have said as quoted below:

*“At Sheikh Zayed glasses are sold at GMD250 and above but we will recommend GMD50 as the new price that will be affordable to all Gambians” – **Banjul South.***

*“If the glasses would not be given free, then GMD50 is a fair price for even the less fortunate” – **Banjul North.***

*“The best price affordable to all Gambians irrespective of region and family status is GMD50” – **Banjul Central.***

V. CONCLUSION

Affordability is a critical component of accessing any services in particular health care services. Given the general level of poverty (48.4%) in The Gambia, coupled with the high cost of health care services, this has resulted in making health care services expensive for a good number of Gambians and residents alike. The cost of eye health care can be divided into direct cost; which includes consultation fees, cost of medication/glasses, etc. And indirect cost comprises; the cost of transportation to and from eye clinic,

cost of food/sustenance during eye treatment among others. These costs are consistent with the findings of this study (Quantitative and FGD), and existing literature.

Analysis of willingness to pay for eyeglasses revealed that in The Gambia, respondents are willing to pay ranging from GMD0 (free eyeglasses) to GMD20, 000 for a pair of eyeglasses. The rural and urban average willingness to pay for a pair of glasses is GMD 220 and GMD311 respectively. This is because of the prevalence of poverty in rural Gambia and the fact that urban dwellers are willing to pay more than the rural dwellers because of their level of education and/or awareness, income, and the opportunity available to accessing medical services.

Finally, on the issue of who will pay for corrective glasses for someone with refractive errors, nearly 70% of households reported that the household head will be the one to pay should the need arise for any member of the households. The remaining percentages indicated that the cost would be borne by the affected member. This is an indication of the economic responsibility placed on the household head since people with no source of income primarily depend on their household head. It was generally recommended across The Gambia that the affordable cost for a pair of glasses should be GMD50.

A. Policy Recommendations

- Close the disparity in the demand of health services between urban and rural settlements, thus providing health care services at the doorsteps of service seeker making it more affordable.
- Provide good road networks in all regions to avail communities' access to health care services with less cost and time.
- Encourage affordable public transport system in all regions to enhance and easy communication
- Rationalize expansion of health services countrywide and upgrading facilities to accommodate eye care services.
- Improve infrastructure and logistic requirements at health care facilities across The Gambia.
- Provide acceptable incentives for health professionals serving in the hinterland of the country to ensure retention.

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