

PATIENT SATISFACTION AMONG TELEOPHTHALMOLOGY
CONSULTATION SERVICE USERS IN JIMMA MEDICAL CENTER,
DEPARTMENT OF OPHTHALMOLOGY, SOUTHWEST ETHIOPIA

BY: Dr ABDIRASHID MOHAMOUD (MD)



A THESIS REPORT SUBMITTED TO THE DEPARTMENT OF
OPHTHALMOLOGY, FACULTY OF MEDICAL SCIENCE, INSTITUTE OF
HEALTH, JIMMA UNIVERSITY IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE CERTIFICATE OF SPECIALIZATION IN
OPHTHALMOLOGY

DEC, 2020

JIMMA, ETHIOPIA

JIMMA UNIVERSITY INSTITUTE OF HEALTH, FACULTY OF
MEDICAL SCIENCE, DEPARTMENT OF OPHTHALMOLOGY

PATIENT SATISFACTION AMONG TELEOPHTHALMOLOGY
CONSULTATION SERVICE USERS IN JIMMA MEDICAL CENTER,
DEPARTMENT OF OPHTHALMOLOGY, SOUTHWEST ETHIOPIA

BY: DR. ABDIRASHID MOHAMOUD (MD)

ADVISORS: DR. AEMERO ABATENEH (MD)

MR. JEMAL MOHAMMED (Bsc, MPH)

DEC, 2020

JIMMA, ETHIOPIA

ABSTRACT

Background: The availability of modern ways and means to evaluate and manage patients while keeping social distance have made Teleophthalmology an alternative to consider in the current times. Measurement of patient satisfaction has become an important indicator of the performance, quality of care and acceptance of a telemedicine service. However, there have been few previous studies of patient satisfaction with Teleophthalmology in developing countries.

Objectives: The purpose of this study is to measure the level of patient satisfaction with teleophthalmology consultation service in Jimma Medical Centre, department of ophthalmology, Southwest Ethiopia.

Materials and Methods: A cross sectional study was done on a sample of 145 patients who Used The teleophthalmology consultation service from June to September, 2020. The patients were selected using systematic random sampling technique. Pretested, structured questionnaire was Administered with telephone to collect data. The collected data was coded and entered into SPSS version 25.0 for statistical analysis. The results were interpreted. Chi-square test and ANOVA was performed and $P < 0.05$ was considered as statistically significant. Logistic regression was employed to remove the confounding factors. Data was presented using tables and graphs.

Results: A total of 145 patients with an average age of 39.5 years were included in the study with a response rate of 88%, from which 112 (77%) were male and 64 (44%) were from Jimma. Approximately 93% of respondents were satisfied with the overall service provided during the teleophthalmology consultation. The telemedicine service was time saving and met their needs. Satisfaction was significantly high if the patients were from Jimma $p < 0.05$, 95% *C.I.* (0.02-0.23). Majority of patients (98%) believed they were protected from COVID 19 by using this service and all of them recommend the service to others. The respondents also made useful positive comments

Conclusion: The overall satisfaction level of the patients was high, demonstrating the use of teleophthalmology consultation service as a desirable option to a majority of patients, considering the availability of face-to-face consultation sessions when needed. Regular patient feedback is necessary to perfect the use of telemedicine in a patient-centered healthcare service.

Key words: *Telemedicine; Patient satisfaction; Teleophthalmology*

Table of Contents

ABSTRACT	3
ACKNOWLEDGEMENT	6
LIST OF FIGURES AND TABLES.....	7
ABBREVIATIONS	8
1 CHAPTER 1: INTRODUCTION	1
1.1 Background.....	9
1.2 Statement of the problem.....	9
1.3 Significance of the study.....	12
2 LITERATURE REVIEW	13
2.1 Literature Review	13
3 OBJECTIVES OF THE STUDY.....	17
3.1 General objective	17
3.2 Specific objectives	17
4 METHODS AND MATERIALS.....	18
4.1 Study area and period	18
4.1.1 Study area	18
4.1.2 Study period	18
4.2 Study design.....	18
4.3 Populations.....	19
4.3.1 Source population	19
4.3.2 Study population	19
4.4 Inclusion and exclusion criteria	19
4.4.1 Inclusion criteria.....	19
4.4.2 Exclusion criteria.....	19
4.5 Sample size and sampling technique	20
4.5.1 Sample size.....	20
4.5.2 Sample procedure	20
4.6 Variables of the study	21
4.6.1 Dependent variables	21
4.6.2 Independent variables.....	21
4.7 Data collection procedure	22
4.8 Data analysis	23

4.9	Data quality control	23
4.10	Ethical consideration.....	24
4.11	Operational definitions	25
4.12	Dissemination of Findings	26
5	RESULTS	27
5.1	Socio-demographic characteristics of the respondents	27
5.2	Teleconsultation service Use experience	28
5.3	Patient Satisfaction with the telemedicine service	30
5.4	Patient given comments	32
5.5	The association of level of satisfaction with sociodemographic characteristics and service use experience of service users.	32
6	DISCUSSION	34
7	LIMITATIONS.....	36
8	CONCLUSION.....	37
9	RECOMMENDATIONS	38
10	ANNEXES	42
10.1	Annex A. Questioner	42
10.1.1	<i>Oral Script and Informed Consent</i>	42
10.1.2	<i>Part I. Sociodemographic characteristics</i>	42
10.1.3	<i>Part II. service use items</i>	43
10.1.4	<i>Part III. Telemedicine Satisfaction Questionnaire</i>	45
10.2	Annex B. Telephone and survey contact form.....	46

ACKNOWLEDGEMENT

My deepest gratitude goes out to my advisors for guiding and supporting me while doing this study. I would like to thank Jimma University school of Medicine for giving me this opportunity and for providing all the necessary instruments to carry out my research.

LIST OF FIGURES AND TABLES

Figure 1 Theoretical Model	16
Figure 2 Distribution of age of sampled teleophthalmology consultation users JUDO, southwest Ethiopia, 2020	Error! Bookmark not defined.
Figure 3 Use Frequency of teleophthalmology consultation, JUDO, southwest Ethiopia, 2020.....	28
Figure 4 Source of information among teleophthalmology consultation users JUDO, southwest Ethiopia, 2020	28
Figure 5 Subjective Dx teleophthalmology consultation users JUDO, southwest Ethiopia, 2020	29
Table 1 Socio-demographic characteristics of the sampled (n=145) teleophthalmology consultation users JUDO, southwest, 2020	27
Table 2 Teleophthalmology consultation Service use of the sampled (n=145) users JUDO, Southwest Ethiopia, 2020.....	30
Table 3 The telemedicine satisfaction statements with the patients' responses on the Likert scale, JUDO, 2020	31
Table 4 Mean and SD of Satisfaction according to subdomains of Teleophthalmology consultation	32
Table 5 Mean score of satisfaction according to socio-demographic data and Teleophthalmology consultation use, JUDO 2020.....	33
Table 6 Telephone follow contact form.....	46

ABBREVIATIONS

COVID-19=Novel Coronavirus Disease 2019

DR=Diabetic Retinopathy

EBC=Ethiopian Broadcasting Corporation

ETA= Ethiopian Telecommunication Authority

ETC= Ethiopian Telecommunication Cooperation

FMoH=Federal Ministry of Health

FM=Frequency Modulation

ICT=Information and Communication Technology

JMC=Jimma Medical Center

NTCC= National Telemedicine Coordinating Committee

SPSS=Statistical Package for Social Science

TSQ=Telemedicine Satisfaction Questioner

TFU=Telephone follow up

WHO=World Health Organization

1 CHAPTER ONE: INTRODUCTION

1.1 Background

Information and communication technology (ICT) have been developed and applied in the last few years to various areas of healthcare. Using this technology, health care services have changed to be more accessible and effective, especially where distance is a major concern. In fact, telemedicine has emerged as a tool in improving health care, in order to address healthcare costs, shortage of providers, and increasing patient expectations. Furthermore, telemedicine is a tool of paramount importance in a pandemic such as COVID-19 to reduce direct face-to-face contact, to maintain social distance and to limit the burden on the healthcare system (1, 2).

World Health Organization (WHO) defines telemedicine as “The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities” (3).

There are three methods used in tele-medicine, namely; store-and-forward, synchronous or video-conferencing, and hybrid. Due to the necessity for internet bandwidth and the high costs of equipment in the later methods, store-and-forward technique is commonly employed for diagnosing eye diseases which require high quality color images (4).

Telemedicine was originally launched in Ethiopia in 2001 by the National Telemedicine Coordinating Committee (NTCC) formed as a joint initiative of the Federal Ministry of Health (FMoH), Medical Faculty of Addis Ababa University, and the Ethiopian Telecommunication Authority (ETA). Following this initiative, three more projects were established by different organizations to support the healthcare system related to teledermatology, teleradiology and telepathology (5).

The Ethiopian Telecommunication Cooperation (ETC), maintains the telecommunication services in the country with fixed telephone mainlines of 1.181 million total subscriptions:

1 for each 100 persons. A mobile cellular subscription of 62.617 million with 59 subscriptions per 100 inhabitants (6).

1.2 Statement of the problem

Telemedicine services have been applied in different medical specialties, such as oncology, dermatology, radiology, and pathology (7). Ophthalmology is another medical specialty which may

benefit from using telemedicine and teleophthalmology services. Such services are significantly important in the poor, remote, and impassable geographical areas, where there is no access to the ophthalmology services and ophthalmologists. In these areas, due to the prevalence of eye diseases and a lack of access to the medical facilities, patients may suffer from low vision or blindness. The use of this technology can help to facilitate examining, diagnosing, and managing eye diseases, for public eye screening, sharing information between the optometrists and the specialists, conducting research, e-learning programs and professional development (8).

The COVID-19 pandemic has caused new prevention measures to be adopted by governments around the world, measures that limit social interactions and travel, as well as visits to Health care facilities. The current health care crisis and need for social distancing to protect healthcare providers, affiliate staff, and patients has necessitated the need to consider new methodologies for ophthalmic evaluation, coding, and reimbursement (9).

Telemedicine may offer solutions; however, ophthalmology's telehealth experience is historically store-and forward using a hub-and-spoke model, similar to radiology. The Centers for Disease Control and Prevention is now recommending telemedicine in lieu of live clinic visits in anticipation of an extended period of social distancing. Before social distancing mandates in US, 74% of patients were unaware of a telemedicine option in their physicians' practices (10). The COVID-19 pandemic has transformed this scenario, such that some leading telehealth platforms now report virtual patient visits have increased between 257% and 700% (11).

In Ethiopia more than 80% of the population live in communities in rural areas. Apart from the healthcare challenges they face including the current COVID 19 Crisis, they also have low socio-economic status, very low literacy rates, conduct harmful traditional practices, are highly dispersed and road and transportation infrastructure in these areas are poor (12). Efforts are now being made to set up telemedicine clinics and there have been calls by the health administration through the Ethiopian Broadcasting Corporation (EBC) to encourage mothers to use services along with safety assurances. It is imperative that a balance between focusing the health services on handling the virus and at the same time not ignoring other essential services is preserved (13). In line with this In June, 2020 a telephone-based teleophthalmology consultation service was started during the coronavirus (COVID19) pandemic in Jimma University Medical center, Ophthalmology department to ensure continuous ophthalmological care, infection prophylaxis and to compensate a decreased number of patient presentations as well as decreasing exposure to the physicians, staff and congregating patient.

Access to care constitutes one of the most important attributes of telemedicine, which is likely to influence patients' perceptions of their care and satisfaction. Healthcare providers recognize the importance of patients' perceptions and use patient satisfaction as one indicator of quality of care. In addition, patient satisfaction has been investigated in relation to physician practice styles, behaviors, and technical skills. There is evidence suggesting that patient compliance and information exchange increase when patient satisfaction is high. Lifestyle, past experiences, future expectations, and personality all shape perception of a given event, however, resulting in different ways in which patients respond to the care they receive. Dissatisfaction with care usually indicates that expectations are not congruent with actual experience (14)

Patient Satisfaction is a key component in the measurement of outcome and quality of health care. Lack of knowledge regarding patient satisfaction with telemedicine and factors associated with its utilization leads to providers not being able to effectively assess the quality of care delivered. Evaluation of Patient Satisfaction provides a mechanism for identification of problems that might exist. Different studies show that telehealth has a positive impact on patient's satisfaction with the capability to empower patients to manage their overall health by providing a better connection to healthcare (15). While the findings suggest that telehealth interventions have the capacity to facilitate a positive experience of personalized healthcare, it is important to take personal factors and consumer focus into account to maximize the benefit and minimize the burden of telehealth (15, 16).

Despite the great promise of telemedicine, to date, its implementation in Ethiopia and other developing countries has achieved little success with low utilization as it is applicable for any technology supported medical service. Since telemedicine is an emerging technology in the health sector of Ethiopia, to facilitate the adoption, it prominently requires information about the level of patient satisfaction (17). However, there have been few previous studies of patient satisfaction with telemedicine conducted in developing countries and so far, there is no study done on patient satisfaction with telemedicine in Ethiopia.

The purpose of this study is to assess level of patient satisfaction among teleophthalmology consultation service users in the newly established teleophthalmology service modality in jimma university department of ophthalmology.

1.3 Significance of the study

This study will present valuable information on looking other options to deliver health service to remotely found populations. It will help health care groups see the management of this new delivery system to bring patient care to those who need it most in a way that will possibly enhance their primary care experience.

The study will contribute to filling the information gap in regard to patient satisfaction with the newly adopted teleophthalmology health service delivery. This study will be an input for different governmental and non- governmental organizations, working in the area of telemedicine. Furthermore, it will serve as a base line data for future study in the area.

2 CHAPTER TWO: LITERATURE REVIEW

2.1 Literature Review

Satisfaction is an indicator of the relative advantage an innovation may provide and influences its adoption. Satisfaction also has a role in the attitudes of patients towards their healthcare and influences health outcomes. Many studies have shown that patients are satisfied with the telemedicine mode of health care delivery. Some show comparable results between telemedicine and traditional methods with neither providing a clear advantage over the other. While some users are generally satisfied with telemedicine services, many still do not view it as replacing face-to-face consultations (18).

Telephone consultations have been employed in a number of non-ophthalmological settings. A randomized trial comparing TFU (Telephone follow up) to clinic review following discharge from an internal medical ward found a significant increase in satisfaction in the TFU group and a trend towards less readmission (19). Patient satisfaction has been shown to be high, with patients finding it more convenient compared to clinic review (20, 21). A study on patient satisfaction with the use of tele-dermatology services on 258 respondents reported 88% satisfaction with the telemedicine session. In addition, access to dermatology appeared to increase with the availability of the telemedicine service (22). A postal survey conducted to assess patient satisfaction with telephone follow-up for the management of thyrotoxicosis has shown that more than 90% of responders strongly agreed or agreed that they were comfortable with telephone follow-up, that it saved them time, that it met their needs and that they would use the telephone follow-up service again (23). A similar recent study by Kaur et al during the current coronavirus (COVID-19) pandemic on 106 patients highlighted that approximately 97% of respondents were satisfied with the overall quality of service provided during the use of telemedicine in the management of hyperthyroidism. The telemedicine service was time saving and met their needs (24).

Several studies have explored and demonstrated the usefulness of telemedicine technology for ophthalmology (25, 26). Tan et al. demonstrated that nurse-led TFU at Day 1 post-cataract surgery was safe and effective, negating the need for a routine Day 1 review in clinic(27). In a similar study 81.6 per cent of patients defined TFU as convenient and 75.5 per cent of patients preferred TFU to routine outpatient review at Day 1 post Phacoemulsification (28).

Boucher and colleagues reported that patients find tele-ophthalmology to be a highly admissible method for DR screening(29). In a similar survey conducted by Paul et al, on 348 patients (age:18-83 years). Nearly all subjects voted for teleophthalmology as their choice for eye examination. Three fourths of the subjects felt that they received enough attention from the ophthalmologist at the base hospital during teleconsultation (30).

A study by Kumar et al reported a 1-year study of remote interactive teleophthalmology consultation facility provided to a remote location 940 km away from a base hospital in Australia. 118 patients (Age: 4 to 73 years) Greater than 90% of subjects utilized the facility to screen for glaucoma and DR. Only 3% of the subjects required referral after teleconsultation and Face-to-face examination with ophthalmologist was not a major concern to three-fourths of the subjects. Approximately 36% subjects required regular follow-up examination(31). Similarly, Court et al studied patient satisfaction level, acceptance and quality of patient education among patients attending virtual glaucoma clinic and standard clinic. The acceptance level was equal for both the set up. Patient knowledge and understanding about their condition was high in the virtual clinic group. (32)

Technical quality, effect on communication, ease of use, comfort, accessibility, perceived usefulness, effectiveness/similarity with face-to-face encounters, intention to use/re-use, overall satisfaction are the main factors that determine patient satisfaction in teleophthalmology (33, 34).

Although various studies have been conducted on patient satisfaction during telemedicine, few pertain to patient satisfaction in teleophthalmology (30). In a systematic review performed on the application of teleophthalmology services in Europe, patients' satisfaction was found to be an important factor which plays a role in the effective implementation of teleophthalmology. Various satisfactions survey studies in teleophthalmology also report good satisfaction level, but many are limited by smaller sample size. Many patients prefer tele-ophthalmology as their choice of care and prefer this method for future screening owing to convenience and decreased consultation time (26).

Court and colleagues studied satisfaction level, acceptance and quality of patient education among patients attending virtual glaucoma clinic and standard clinic. The study reported that the patients attended virtual glaucoma clinic expressed high level of patient satisfaction and patient understanding about the disease, similar to standard clinic (32). Similarly (Boucher et al, Paul et al and kumar et al) reported a high patient satisfaction of 99%, 99.8% and 98% respectively(29-31).

A study in Kenya by Kurji et al compared patient satisfaction in DR screening with teleophthalmology with face-to-face clinical examination in a sample of 57 subjects. Approximately 88% of the patients were completely satisfied with teleophthalmology (35). Similar to this study Patient satisfaction was 89% in a study that investigated the feasibility of telephone follow-up (TFU) after uncomplicated cataract surgery in low-risk patients and patient satisfaction Over three months, on 50 patients (28). A Study in Saudi Arabia among Patients who had tele-retinal screening for DR found the overall satisfaction to be 80.4%,The lowest rate of satisfaction was found to be in accessibility to an ophthalmologist when a referral was needed in this study (36).

Patient satisfaction due to Ease of use, low cost and decreased travel time are some factors highlighted in some of the reviewed teleophthalmology studies. A study was conducted where video slit-lamp, automated perimeter, non-mydratiac fundus camera, videoconferencing system were installed in a healthcare center in rural area and another group was examined at city hospital. It was determined that patients in both groups were equally satisfied. 96% of the patients of rural clinic wanted follow-up at rural center only due to reduction in travelling, cost and time. The reasons enumerated were absence of pupil dilation, rapidity of the photographic examination, less annoyance and ease of accessibility(29). Similarly, Alhumud and colleagues reported that 60% of the respondents were concerned that it might take a long time for their referral(36). In the study done in Kenya more than 50% of the patients preferred this method for their future screening examination, voting convenience, and decreased consultation time (35).

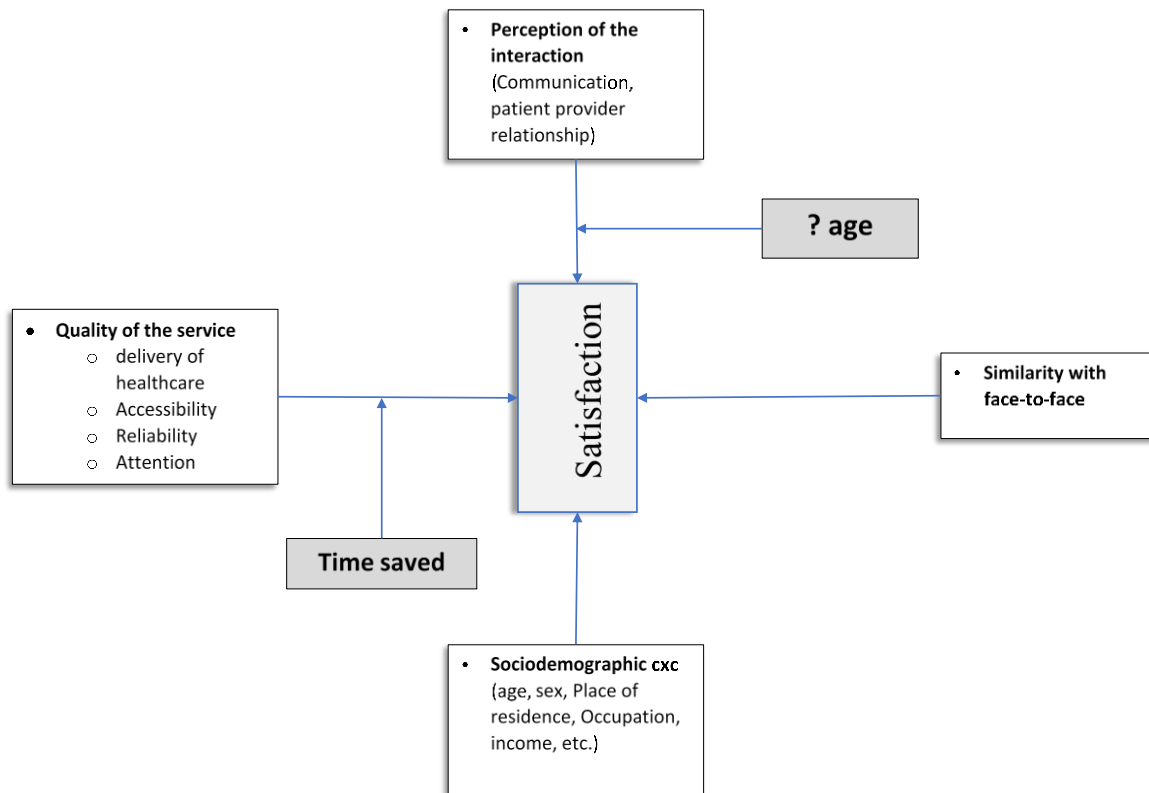


Figure 1 Theoretical Model

3 CHAPTER THREE: OBJECTIVES OF THE STUDY

3.1 General objective

1. To evaluate level of satisfaction among patients using teleophthalmology consultation service in Jimma Medical centre, department of Ophthalmology

3.2 Specific objectives

1. To determine the level of patient satisfaction towards the teleophthalmology consultation service with reference to Quality of care, Similarity with face-to-face and communication among study participants.
2. To assess if specific personal characteristics and demographics are associated with high Patient satisfaction rate.
3. To describe the teleophthalmology consultation service use in terms of frequency of use, subjective dx, intervention and reflection on the intervention made.

4 CHAPTER FOUR: METHODS AND MATERIALS

4.1 Study area and period

4.1.1 *Study area*

Jimma is located in Oromia region of Ethiopia, 352 km south west to the capital Addis Ababa. Jimma town is the administrative center of Jimma Zone. Based on the 2007 Ethiopian Census (no census recent of this), Jimma town has a total population of 120,960 of whom 60,824 are male and 60,136 are female.

JU was established as higher institution in December 1997 from the already functional Jimma Institute of Health Sciences (Public Health, and Medical Sciences faculty) and two new faculties (Faculty of Business and Economics, and Faculty of Technology).

Jimma Medical Center (JMC) is the only specialized center in the southwestern Ethiopia providing service for a catchment area of 15 million people, and serving about 15,000 inpatients and 160,000 out patients in a year.

Jimma University Department of Ophthalmology provides Eye care service to the forementioned catchment population and is known for its voluntary eye-care service campaigns in southwest Ethiopia. Currently, due to the Global COVID 19 Pandemic the department established Ophthalmic-tele-Consultation Clinic to give service to the community seeking guidance and treatment on eye-related diseases. The service was advertised using jimma FM and different social media Platforms like Facebook, Telegram e,t,c. Information about the telemedicine clinic was also published in the official website of the University.

4.1.2 *Study period*

The study was conducted from July to Sep, 2020.

4.2 Study design

A cross-sectional study was employed on patients utilizing Teleophthalmology consultation in Jimma University Department of ophthalmology, Southwest Ethiopia

4.3 Populations

4.3.1 *Source population*

- All patients that consulted the program

4.3.2 *Study population*

1. All patients consulting the service during the study period

4.4 Inclusion and exclusion criteria

4.4.1 *Inclusion criteria*

- All Teleophthalmology consultation Service Users

4.4.2 *Exclusion criteria*

- Patients who are <18 years of age
- Patients with no record of a telephone number
- Subjects with wrong telephone number or who did not answer the call 3x were excluded.

4.5 Sample size and sampling technique

4.5.1 Sample size

Sample size will be determined using single population proportion formula as stated below.

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

n = minimum sample size,

$Z_{1-\alpha/2}$ = significance level at $\alpha = 0.05$ (1.96)

d = margin of error (5%)

P = 50%, since there is no previous same study in this area.

$$n = \underline{384}$$

Since source population is less than 10,000, using correction formula

$$n = \frac{n_0}{1 + \frac{n_0}{N}}, \text{ Where: } - N = \text{Population size (250)}$$

$$n = 150 \text{ and taking } 10\% \text{ non-response rate } n = \underline{\mathbf{165}}$$

4.5.2 Sample procedure

Systematic random sampling technique was used to get the study population from the total number of patients who used the service from June to Sep, 2020 which is 250. Sample size was calculated using this number as N. Numbers given randomly to all the patients used the service. Every other Number was selected until the sample size is attained.

4.6 Variables of the study

4.6.1 *Dependent variables*

- Level of patient Satisfaction

4.6.2 *Independent variables*

- **Socio-demographic and economic factors;** Age, sex, occupation, house hold income, level of education
- Source of info, Frequency of Use, for who was the service used, subjective Dx, the intervention made, intervention made, Recommend to others, COVID 19 risk

4.7 Data collection procedure

Pretested, structured questionnaire in the form of telephone survey was used to collect data.

The Questioner contains sociodemographic data, service use related questions and patient satisfaction questions.

The telemedicine Satisfaction questioner (TSQ developed originally by Yip et al, 2003) with high internal reliability (cronbach's α .82) used with some modification to assess the level of satisfaction with the telemedicine service (37).

The questionnaire consists of 11 questions divided in to three domains:

1. **Quality of care provided:** - contains items related to the delivery of health-care, accessibility, reliability and attention assessed by items 5, 7, 8, 9, 10 and 11
2. **Similarity to face-to-face encounter** assessed by items 1, 2, 3 and 6
3. **Perception of the interaction** related to communication and assessed by item 4

A Three-point Likert scale ranging from “Disagree” (1) to “Agree” (3) and “Neutral” in between was used. A Cronbach's alpha test was done on the “Quality of care” Subscale of the telemedicine satisfaction. It was found to be .75 which indicates that the scale has an adequate interitem reliability. The same test was also undertaken on the “similarity to face-to-face interaction” subscale of the telemedicine satisfaction. It was found to be .70 which also indicates that the scale has adequate inter-item reliability with the Cronbach's alpha.

A final open-ended question was added at the end asking the respondents for any suggestion.

Participation was voluntary and verbal consent were obtained before the start of the telephone interview after greeting the patient.

4.8 Data analysis

Analysis was done using Statistical Package for Social Science Program (SPSS) version 25.0. Descriptive statistics were computed to show the picture of the demographic data, Service use data in terms of mean, standard deviation, median, range, frequency and percentage. Chi-Square tests was used to evaluate the differences in the distribution of categorical variables for study groups. Means of different variables were compared using t-test and ANOVA. Regression (Logistic) analysis was used to evaluate the effect of independent variables (demographics, service use) on the overall satisfaction. The crude and adjusted odds ratios together with their corresponding 95% confidence intervals was computed at a P value < 0.05.

4.9 Data quality control

Trained Ophthalmic Nurses were involved in the data collection. Two-day training was given for data collectors regarding study objective, interview techniques, measurements and ethical issues during data collection. Pretest was done among 5% of the total sample size two weeks before the actual data collection time in order to assess its clarity, length, completeness and consistency, language barriers and contextual gaps on the structured questionnaires and some modifications were made. The questionnaire was translated in to Afaan, Oromoo and Amharic to facilitate understanding of the respondents during the interview. Questionnaires were checked daily for accuracy, consistency, and completeness.

4.10 Ethical consideration

Before starting the research, as per the basic principles of World Medical Association Declaration of Helsinki, ethical review committee of Jimma University College of Health Sciences has approved this research and provided a support letter by the research ethical committee. This support letter was given to the head of Jimma Medical Center. Each study participant was informed about the purpose of the research and was reassured that confidentiality of information was maintained by not using any identity revealing information during data collection, analysis, interpretation and publication of results.

4.11 Operational definitions

Frequency of use: - The number of times the patient/client used the service. for those patients who stated using the service more than once the study was based on the most recent experience.

For who was the call made: - whether the caller who contacted the care provider used it for himself or for someone else.

Subjective Dx: - the diagnosis given based on the information provided by the patient.

The intervention made: - what was done to address the patients compliant.

Patient satisfaction: the patients' opinion of the care received whether patients are happy or not about the service they received.

- A total of **11** questions with each question having three options (agree; neutral; disagree) each option represent a score ranging from one to three, where three represents the highest.
- **To calculate the Over-all level of satisfaction:** the percentage of all individuals who scored above the calculated average of all questions will be grouped together as satisfied. Conversely, individuals who scored below the calculated average of all questions will be grouped together as Unsatisfied.
- **In order to calculate the level of satisfaction in different domain:** the percentage of all individuals who scored above the calculated average of all questions inside that sub-domain will be grouped together as satisfied. Conversely, individuals who scored above the calculated average of all questions inside that sub-domain will be grouped together as satisfied.

The result is reported as mean score of each question and standard deviation.

4.12 Dissemination of Findings

Findings of this research will be distributed to Jimma University postgraduate and research study office. It will be presented on a national ophthalmic association meeting. It will also be made available for a publication on international journals. Further, it will be uploaded and made available on the website of Jimma University.

5 CHAPTER FIVE: RESULTS

5.1 Socio-demographic characteristics of the respondents

Out of total 165 patients who were successfully contacted through telephone 145/165 (88%) patients participated in the study. Among the respondents 112(77.2%) are males. The age of the respondents ranged from 18–70 years with mean (\pm SD) of 39.59 (\pm 14.13). More than half of the participants 95(65.5%) were married, and 59(40.7%) of them were earning a salary of more than 2000ETB per month. Majority of the respondents, 40(28%), were government employees (See Table 1).

Table 1 Socio-demographic characteristics of the sampled (n=145) teleophthalmology consultation users JUDO, southwest, 2020

VARIABLES	FREQUENCY	PERCENT (%)
Sex		
Male	112	77.2
Female	33	23.8
Age		
18-37	60	41.4
38-57	62	42.8
58-77	23	15.9
Address		
Jimma	64	44.1
Out of jimma	81	55.9
Marital status		
Single	50	34.5
Married	95	65.5
Divorced	-	-
Salary		
No formal income	43	29.7
<1000birr	22	15.2
1000-2000birr	21	14.5
>2000birr	59	40.7
Occupation		
Farmer	33	22.8
Merchant	34	23.4
Student	40	27.6
Government Employee	25	17.2
Others	13	9

* Others include daily laborers, self-employees.

Teleconsultation service Use experience

Of the 145 participants who answered the survey, 133(90%) had attended a single teleconsultation in the three-month study period (Figures 2).

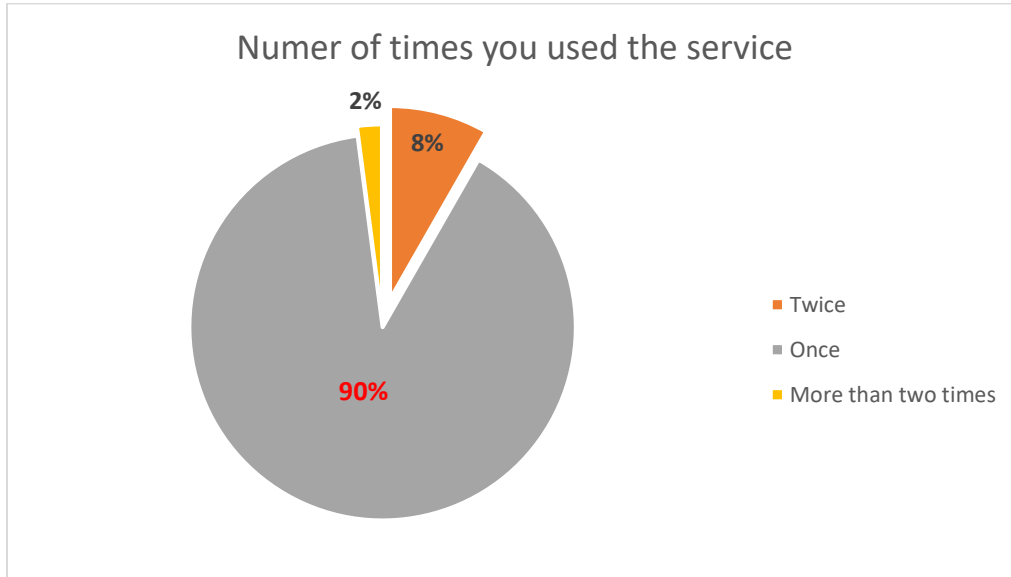


Figure 2 Use Frequency of teleophthalmology consultation, JUDO, southwest Ethiopia, 2020

Regarding the source of information about the teleophthalmology service, majority of respondents (93%) heard from FM/radio and 29% from different Social medias (Figures 3).

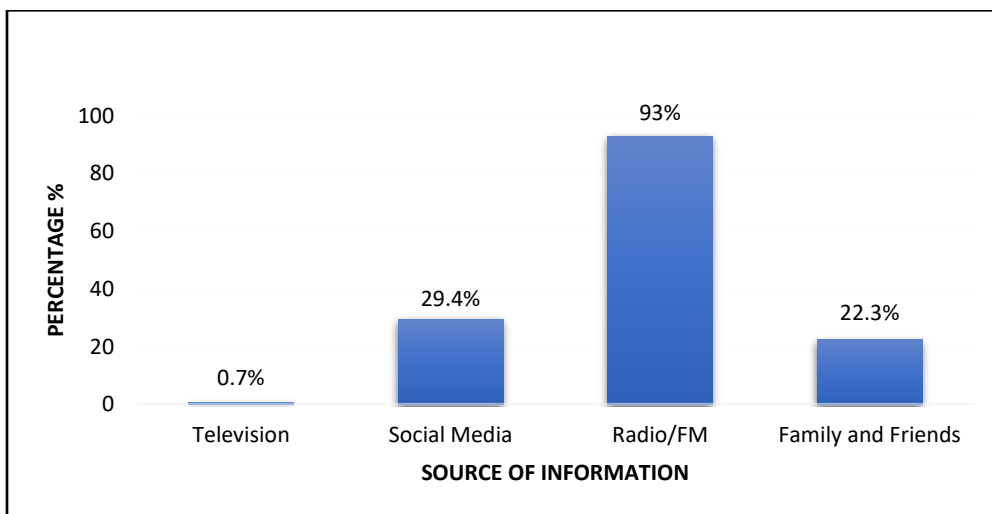


Figure 3 Source of information among teleophthalmology consultation users JUDO, southwest Ethiopia, 2020

One hundred and fourteen (77%) of the respondents contacted the service for themselves the most common subjective complaint among the study participants were ocular itching (29.0%) followed by difficulty of reading from near distance (21.4%) and eye lid margin itching (18.6%) figure 4).

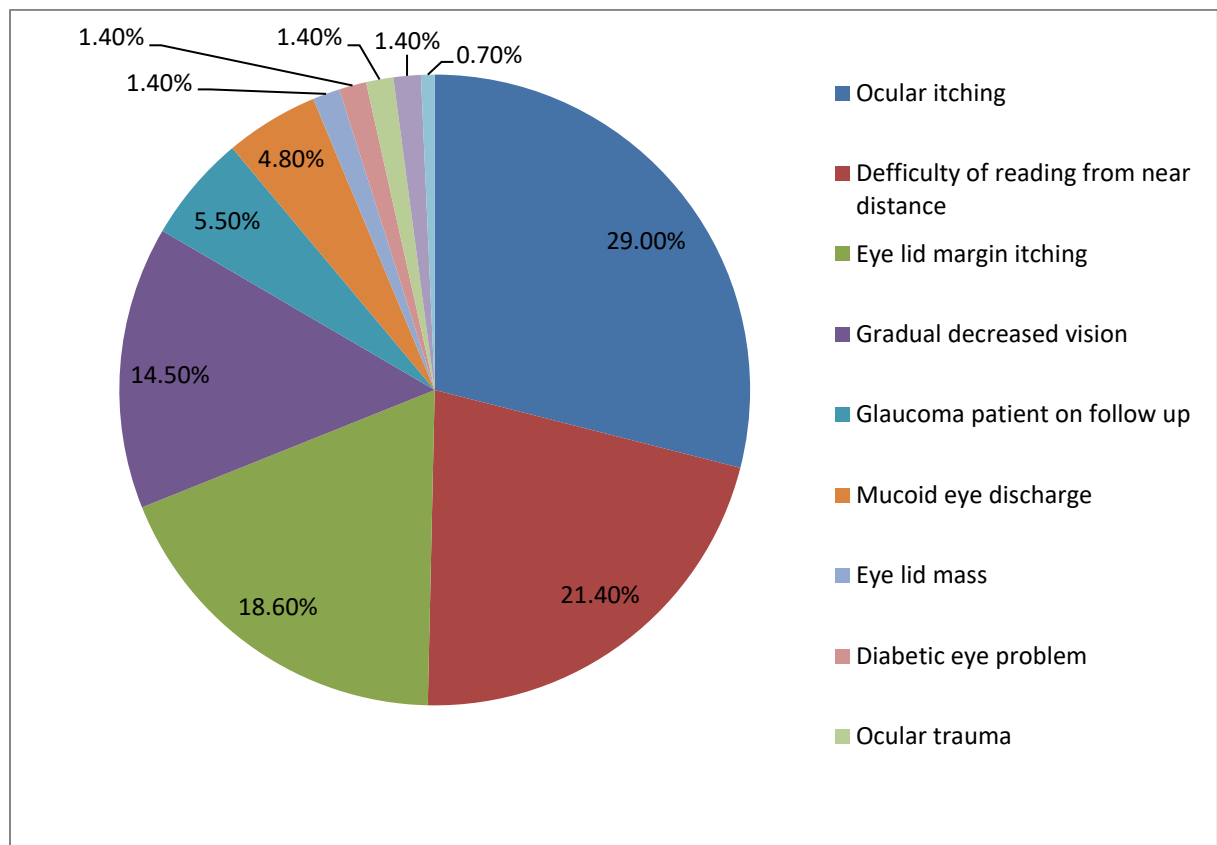


Figure 4 Subjective complaint of teleophthalmology consultation users JUDO, southwest Ethiopia, 2020

Almost half 73(50.3%) of the respondents were given advice over the telephone as primary address to their concern, 56(38.6%) were told to travel to medical center and 16(11%) of them were prescribed medications. While majority 134(92.4%) of service users were satisfied with the advice given and/or medication prescribed only small fraction 11(7.6%) of respondents were dissatisfied and preferred the other option instead. All the participants said they will recommend the service to others and a big majority 143(98.6%) think they reduced their risk to contract COVID 19 by using the service (Table 2).

Table 2 Teleophthalmology consultation Service use of the sampled (n=145) users JUDO, Southwest Ethiopia, 2020

VARIABLES		N	(%)
Frequency of use	Once	130	90
	Twice	12	8
	More than 2x	3	2
Used the service for?	Self	114	77
	Someone else	31	23
Tele-ophthalmic service given	Advice over the telephone	73	50.3
	Referred to eye center	56	38.6
	Prescribed medications	16	11
Overall Satisfaction with the service	Satisfied	134	92.4
	Not Satisfied	11	7.6
Recommend the service to others	Yes	145	100
	No	-	-
Do you think tele-ophthalmology reduced your risk of contracting COVID-19?	Yes	143	98.6
	No	2	1.4

5.2 Patient Satisfaction with the telemedicine service

Overall, 93.1% of teleophthalmology consultation users were satisfied with the tele-ophthalmic eye care service delivered. Among the respondents, 84%-97% of them were satisfied in each components of patient satisfaction assessment question of teleconsultation service.

Ninety seven percent of the respondents were satisfied with their talk with the health care provider during the telephone consultation. 93.8% of the respondents were comfortably hearing their health care provider over the phone. 95.2% of users said teleconsultation saved their time and 92.4% of respondents agreed to use the service again

Eighty four percent of respondents believe that telemedicine was as good as that of face-to-face consultation (Table 3).

Table 3 The telemedicine satisfaction statements with the patients' responses on the Likert scale, JUDO, 2020

<i>Statement</i>	<i>Mean± SD</i>	<i>Agree n(%)</i>	<i>Neutral n (%)</i>	<i>Disagree n (%)</i>
1. I could easily talk to my health-care provider during the telephone consultation	2.95±0.297	141(97.2)	1(0.7)	3(2.1)
2. I could hear my health-care provider clearly during the telephone consultation	2.88±0.484	136(93.8)	0(0)	9(6.2)
3. My health-care provider is able to understand my health-care condition	2.89±0.410	134(92.4)	6(4.1)	5(3.4)
4. I felt comfortable communicating with my health-care provider during the telephone consultation	2.82±0.536	129(89)	6(4.1)	10(6.9)
5. I obtained a better access to health-care services by use of the telephone consultation when compared to face-to-face clinic	2.71±0.655	119(82.1)	10(6.9)	16(11)
6. Telephone consultation saved me time travelling to hospital or a specialist clinic	2.92±0.382	138(95.2)	2(1.4)	5(3.4)
7. I did receive adequate attention during my telephone consultation service	2.72±0.651	121(83.4)	8(5.5)	16(11)
8. Telephone consultation provided for my health-care need	2.78±0.583	125(86.2)	8(5.5)	12(8.3)
9. I found the telephone consultation service an acceptable way to receive health-care services	2.84±0.509	131(90.3)	5(3.4)	9(6.2)
10. I will use the telephone consultation service again	2.90±0.360	134(92.4)	8(5.5)	3(2.1)
11. Overall, I am satisfied with the quality of service being provided via the telephone consultation	2.90±0.379	135(93.1)	6(4.1)	4(2.8)

The mean and SD of satisfaction score of the three different domains of telemedicine satisfaction are summarized in (Table 4). Although there was no significant difference in the mean among the domains the highest satisfaction rate was observed in the “similarity with face-to-face encounter” 2.899 ± 0.26 , followed by perception of the interaction 2.88 ± 0.34 . The least satisfaction rate was in quality of care sub domain 2.83 ± 0.30 (Table 4).

Table 4 Mean and SD of Satisfaction according to subdomains of Teleophthalmology consultation

	Mean	Std. Deviation
Quality of care	2.83	0.30
Similarity with face-to-face	2.89	0.26
Perception of the interaction	2.88	0.34

5.3 Patient given comments

Majority of patients gave positive and constructive comments for open ended questions asked at the end of the questioner. Their comments were “Good work, keep it up”, “It is very nice great”, “Nice because I can ask questions when I call”, “Keep it up the way it is, very nice”, “I was better when I followed the instructions given to me”, “It was very nice. I was feeling better and it was nice”, “It was good. I like it”, “Keep it the way it is “They were nice and was able to answer all the questions”.

5.4 The association of level of satisfaction with sociodemographic characteristics and service use experience of service users.

Only place of residence was found statistically associated with the mean of patient satisfaction score using ANOVA test, $p < 0.05$, 95% C.I. (0.02-0.23). Participants from Jimma scored on an average higher satisfaction ($M = 2.91$, $SD = 0.17$) as compared to those out of Jimma ($M = 2.81$, $SD = 0.31$) (Table 5).

Table 5 Mean score of satisfaction according to socio-demographic data among teleophthalmology consultation use, JUDO 2020

<i>Variable</i>	<i>Mean ± SD</i>	<i>P-value</i>
Age		
18-37	2.84±.29	0.77
38-57	2.87±.22	
58-77	2.84±.28	
Sex		
Male	2.88±.21	0.06
Female	2.76±.37	
Residence place		
Jimma	2.91±.17	0.01
Out of Jimma	2.81±.31	
Marital Status		
Single	2.82±.31	0.25
Married	2.87±.23	
Level of education		
Formal ed	2.75±.42	0.06
Primary school	2.87±.22	
High school	2.79±.32	
Some college degree	2.91±.18	
Degree holder and above	2.95±.09	
Level of income		
No Regular income	2.81±.32	0.41
Less than 1000	2.86±.28	
b/n 1000 to 2000	2.84±.24	
> 2000	2.89±.20	

SD Standard deviation

6 CHAPTER SIX: DISCUSSION

This study achieved a response rate of 88%. This is significantly higher than similar studies done in Kenya had a response rate of 45% (35). Studies conducted in Australia, India and Saudi, however, showed comparable response rates to the current study (30, 38, 39). This difference might be due to differences in teleophthalmology service delivery method and interview method.

This study revealed that the overall satisfaction level of the respondents with the teleconsultation service to be (93.1%) similar to other studies on teleophthalmology (39, 40). Studies done in Saudi Arabia and Kenya showed lower satisfaction with overall satisfaction of 80% and 88% respectively(35, 36). This could be attributed to the fact that the service was given in the middle of COVID 19 crisis as the country was in partial lockdown. This may have also been related to the high response rate (88%), which may indicate an expectation among the subjects that the service would be extremely useful (rated with the highest possible scores in the telephone survey).

In our study all the participants recommended the teleconsultation service and 92% of them agreed to use the service again. Other studies have also shown similar preferences for the use of teleophthalmology in the future (25, 41, 42). The majority of the responders agreed with the fact that their time was being saved by the telephone consultation. This was also highlighted in similar teleophthalmology study done in Kenya where preference of patients to use tele retinal screening was driven primarily by reduced examination time(35). In our study it is likely that these patients took into consideration travelling times, waiting times and time needed off work when answering this question.

The question to make a comparison between telephone follow-up sessions and face-to-face consultations. The fact that this question received the highest number of “disagree” and neutral response suggests that face-to-face follow-up is still desirable and important to a significant proportion of patients. This was similar also to what was found in other studies (23, 36). In any medical condition there are times when telephone-based teleconsultation can't meet all the needs of all patients. Furthermore, telephone-based teleconsultation can sometimes be perceived as being impersonal, patients can feel uncomfortable in discussing complex problems by phone, and there is the possibility of hearing difficulties and language barriers.

In our study the technical quality got relatively the least satisfaction level as respondents reported dissatisfaction with being able to hear their healthcare provider as opposed to the first statement “I can talk to my health care provider”. This was further emphasized in the comments section where patients stated “Nice because I can ask questions when I call”. This level of satisfaction with technical aspects of telemedicine is mainly due to the fact that this domain “technical quality of the service” was assessed based on audio transmission as opposed to other studies which rely on quality of picture/video because of reliable networks and telehealth infrastructure they have(35, 36, 41).

Telemedicine differs from conventional face-to-face encounters in several ways that may adversely affect the doctor–patient relationship. Inability to perform a physical examination and decreased nonverbal communication are among the most important concerns in remote consultations (43). These characteristics may contribute to patient dissatisfaction. However, a recent comprehensive literature review shows that videoconferencing has been used for remote consultation of patients in a range of medical disciplines, including the ones that may rely more on physical examination, such as neurology (15). As shown in previous researches this is thought only to be a concern in conditions leading to long term complications such as diabetic retinopathy.

In our study only place of residence was significantly associated with Higher mean of patient satisfaction ($p < 0.05$). Studies done in rural India and Saudi Arabia reported that patients’ demographics are not predictors of patient satisfaction with teleophthalmology(30).

7 CHAPTER SEVEN: LIMITATIONS

In this study patient self-reports were used which usually cause recall bias which might affect satisfaction levels.

There was a gap between the time of data collection and service use; this may lead to recall bias. There was no means to do a comparison with face-to-face clinic consultation service since teleophthalmology was exclusively given over the phone only and there was no means to track patients who were referred.

Also, the setting of our study (Telephone based) limits the generalizability of the results for other situations such as video-conferencing telecare or store and fore-ward types.

8 CHAPTER EIGHT: CONCLUSION

Overall satisfaction of teleophthalmology consultation users was 93% which provides justification for the need to continue promoting the use of this supplementary phone based teleconsultation eye care service delivery. Providers have an opportunity to see more patients in a short time. Patients are presented with the opportunity to save time, get protected from COVID 19 exposure and avoid unnecessary expenditure. This service will also decrease unnecessary burden on the eye care service provider. There is an opportunity to pursue communication with service providers using various technologies other than the telephone in the future. Adding a face to face sessions may increase the likelihood of reaching an objective diagnosis.

9 CHAPTER NINE: RECOMMENDATIONS

The results of our survey provide valuable information to strengthening teleophthalmology consultation service delivery.

Telephone-based teleconsultation to work in the management of eye problems, there needs to be a combination of both telephone sessions interspersed with the occasional face-to-face sessions or else implement a hybrid model where there is a conjoint store an fore-ward added to the service, with patients being reassured that they can request a face-to-face session at any time, this will not only add into the patients satisfaction but will likely increase the objectiveness of the procedure when it comes to reaching a likely diagnosis.

The eye health care provider should give adequate time for these sessions and the healthcare provider must remember to speak slowly and clearly for patients, especially for those who may have hearing difficulties.

REFERENCES

1. Mair F, Whitten P. Systematic review of studies of patient satisfaction with telemedicine. *BMJ*. 2000;320(7248):1517-20.
2. Andreassen HK, Kjekshus LE, Tjora A. Survival of the project: a case study of ICT innovation in health care. *Soc Sci Med*. 2015;132:62-9.
3. WHO. Telemedicine: Opportunities and Developments in Member States: Report on the Second Global Survey on eHealth [Internet]. Geneva, Switzerland: World Health Organization; 2010.
4. Ayatollahi H, Nourani A, Khodaveisi T, Aghaei H, Mohammadpour M. Teleophthalmology in Practice: Lessons Learned from a Pilot Project. *Open Med Inform J*. 2017;11:20-8.
5. Weldegebrail T. Telehealth in Ethiopia – The Barriers Vs. The Success Factors. 2016.
6. Ethiopia Communications 2020. [Internet]. 2020 [cited August 9, 2020]. Available from: https://theodora.com/wfbcurent/ethiopia/ethiopia_communications.html.
7. Morse AR. Telemedicine in ophthalmology: promise and pitfalls. *Ophthalmology*. 2014;121(4):809-11.
8. Newton MJ. The promise of telemedicine. *Surv Ophthalmol*. 2014;59(5):559-67.
9. Cervino G, Oteri G. COVID-19 Pandemic and Telephone Triage before Attending Medical Office: Problem or Opportunity? *Medicina (Kaunas)*. 2020;56(5).
10. Get your clinic ready for coronavirus disease 2019 (COVID-19) [Internet]. [cited August, 8, 2020]. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinicpreparedness.html>.
11. Webster P. Virtual health care in the era of COVID-19. *Lancet*. 2020;395(10231):1180-1.
12. Shiferaw F, Zolfo M. The role of information communication technology (ICT) towards universal health coverage: the first steps of a telemedicine project in Ethiopia. *Glob Health Action*. 2012;5:1-8.
13. Shigute Z, Mebratie AD, Alemu G, Bedi AS. COVID-19 and balance in access to health care in Ethiopia. *Clin Epidemiol Glob Health*. 2020.
14. Gustke SS, Balch DC, West VL, LO. R. Patient Satisfaction with Telemedicine. *Telemed J*. 2000;6(1):5-13.
15. Orlando JF, Beard M, Kumar S. Systematic review of patient and caregivers' satisfaction with telehealth videoconferencing as a mode of service delivery in managing patients' health. *PLoS One*. 2019;14(8):e0221848.
16. Cox A, Lucas G, Marcu A, Piano M, Grosvenor W, Mold F, et al. Cancer Survivors' Experience With Telehealth: A Systematic Review and Thematic Synthesis. *J Med Internet Res*. 2017;19(1):e11.
17. Biruk K, Abetu E. Knowledge and Attitude of Health Professionals toward Telemedicine in Resource-Limited Settings: A Cross-Sectional Study in North West Ethiopia. *J Healthc Eng*. 2018;2018:2389268.
18. Agha Z, Schapira RM, Laud PW, McNutt G, Roter DL. Patient satisfaction with physician-patient communication during telemedicine. *Telemed J E Health*. 2009;15(9):830-9.
19. Braun E, Baidusi A, Alroy G, Azzam ZS. Telephone follow-up improves patients satisfaction following hospital discharge. *Eur J Intern Med*. 2009;20(2):221-5.
20. Williamson S, Chalmers K, Beaver K. Patient experiences of nurse-led telephone follow-up following treatment for colorectal cancer. *Eur J Oncol Nurs*. 2015;19(3):237-43.
21. Kirk C. Telephone follow-up of older people after hospital admissions. *Curr Aging Sci*. 2014;7(2):144-53.

22. Hicks LL, Boles KE, Hudson S, Kling B, Tracy J, Mitchell J, et al. Patient satisfaction with tele dermatology services. 2003;9(1):42-5.
23. Davies C, Vas P, Oyibo SO. Telephone follow-up for the management of thyrotoxicosis: a patient satisfaction survey. *J Telemed Telecare*. 2013;19(1):29-32.
24. Kaur D, Galloway GK, Oyibo SO. Patient Satisfaction With the Use of Telemedicine in the Management of Hyperthyroidism. *Cureus*. 2020;12(8):e9859.
25. Bar-Sela SM, Glovinsky Y. A feasibility study of an Internet-based telemedicine system for consultation in an ophthalmic emergency room. *J Telemed Telecare*. 2007;13(3):119-24.
26. Labiris G, Panagiotopoulou EK, Kozobolis VP. A systematic review of teleophthalmological studies in Europe. *International journal of ophthalmology*. 2018;11(2):314-25.
27. Tan P, Foo FY, Teoh SC, Wong HT. Evaluation of the use of a nurse-administered telephone questionnaire for post-operative cataract surgery review. *Int J Health Care Qual Assur*. 2014;27(4):347-54.
28. Hoffman JJ, Pelosini L. Telephone follow-up for cataract surgery: feasibility and patient satisfaction study. *Int J Health Care Qual Assur*. 2016;29(4):407-16.
29. Boucher MC, El Yamani MEM. Urban diabetic retinopathy teleophthalmology screening: results and impact at the service corridor. *Can J Ophthalmol*. 2019;54(3):359-66.
30. Paul PG, Raman R, Rani PK, Deshmukh H, Sharma T. Patient satisfaction levels during teleophthalmology consultation in rural South India. *Telemed J E Health*. 2006;12(5):571-8.
31. Kumar S, Yogesan K, Hudson B, Tay-Kearney M-L. Internet-Based Electronic Eye Care Consultations: Patient Perspective. *Teleophthalmology*: Springer; 2006. p. 133-8.
32. Court JH, Austin MW. Virtual glaucoma clinics: patient acceptance and quality of patient education compared to standard clinics. *Clin Ophthalmol*. 2015;9:745-9.
33. Batbaatar E, Dorjdagva J, Luvsannyam A, Savino MM, Amenta P. Determinants of patient satisfaction: a systematic review. *Perspect Public Health*. 2017;137(2):89-101.
34. Garcia R, Adalakun O. A Conceptual Framework and Pilot Study for Examining Telemedicine Satisfaction Research. *J Med Syst*. 2019;43(3):51.
35. Kurji K, Kiage D, Rudnisky CJ, Damji KF. Improving diabetic retinopathy screening in Africa: patient satisfaction with teleophthalmology versus ophthalmologist-based screening. *Middle East African journal of ophthalmology*. 2013;20(1):56-60.
36. Alhumud A, Al Adel F, Alwazae M, Althaqib G, Almutairi A. Patient Satisfaction Toward a Tele-Retinal Screening Program in Endocrinology Clinics at a Tertiary Hospital in Riyadh, Saudi Arabia. *Cureus*. 2020;12(5):e7986.
37. Yip MP, Chang AM, Chan J, MacKenzie AE. Development of the Telemedicine Satisfaction Questionnaire to evaluate patient satisfaction with telemedicine: a preliminary study. *J Telemed Telecare*. 2003;9(1):46-50.
38. Lopez C, Valenzuela JI, Calderon JE, Velasco AF, Fajardo R. A telephone survey of patient satisfaction with realtime telemedicine in a rural community in Colombia. *J Telemed Telecare*. 2011;17(2):83-7.
39. Host BK, Turner AW, Muir J. Real-time teleophthalmology video consultation: an analysis of patient satisfaction in rural Western Australia. *Clin Exp Optom*. 2018;101(1):129-34.
40. Valpuesta Martin Y, Pacheco Callirgos GE, Maroto Martin TM, Piriz Veloso M, Hernandez Santamaria S, Lopez Galvez MI. Satisfaction of patients and primary care professionals with a teleophthalmology-based screening programme for diabetic retinopathy in a rural area in Castilla y Leon, Spain. *Rural and remote health*. 2020;20(1):5180.

41. Kumari Rani P, Raman R, Manikandan M, Mahajan S, Paul PG, Sharma T. Patient satisfaction with tele-ophthalmology versus ophthalmologist-based screening in diabetic retinopathy. *J Telemed Telecare*. 2006;12(3):159-60.
42. Silveira JA, Hayashi L, Scarpi MJ. [Identification of patients' needs and expectations in a cataract clinic connected with a university public hospital]. *Arq Bras Oftalmol*. 2005;68(5):639-44.
43. Agha Z, Roter DL, Schapira RM. An evaluation of patient-physician communication style during telemedicine consultations. *J Med Internet Res*. 2009;11(3):e36.

5. Educational status Formal ed Elementary High school College
Degree holder and above
6. Occupation: Farmer Merchant Gov't Employee Student
 Other specify_____
7. Income: No regular income <1000 Br 1000 to 2000 birr >2000 birr

10.1.3 *Part II. service use items*

If used more than once, the most recent experience is reported

8. How many times did you use the service?

- Once Twice More than 2times

9. Source of information about this service (Please tick as many boxes as apply)

- Television
 FM/Radio

- Family/Friends/Neighbours
- Social media-Facebook, Telegram
- Others: Specify _____

10. Did you call...

- About yourself
- About someone else

11. Patient Query:

- Ophthalmic complain: _____
- Systemic complaint: _____
- To ask for information _____
- Medication Refill:
- Others: specify _____

12. About the service you received When you telephoned: did you... (Please tick as many boxes as apply)

- Receive advice over the telephone?
- Travel to the medical center to be seen?
- Other: _____

13. Were you happy with the way your call was handled?

- Yes, I was happy with how it was handled
- No, I should have been invited to a medical center
- No, I should have been given advice on the phone

14. By using the service do you think you reduced your risk of contracting COVID 19?

- Yes
- No
- I don't Know

15. Do you Recommend this service to family/friends?

Yes

No

I don't Know

10.1.4 Part III. Telemedicine Satisfaction Questionnaire

1=Agree, 2=Neutral 3= Disagree

	Disagree	Neutral	Agree
1. I could easily talk to my health-care provider during the telephone consultation	1	2	3
2. I could hear my health-care provider clearly during the telephone consultation	1	2	3
3. My health-care provider is able to understand my health-care condition	1	2	3
4. I felt comfortable communicating with my health-care provider during the telephone consultation	1	2	3

5. I obtained a better access to health-care services by use of the telephone consultation when compared to face-to-face clinic	1	2	3
6. Telephone consultation saved me time travelling to hospital or a specialist clinic	1	2	3
7. I did receive adequate attention during my telephone consultation service	1	2	3
8. Telephone consultation provided for my health-care need	1	2	3
9. I found the telephone consultation service an acceptable way to receive health-care services	1	2	3
10. I will use the telephone consultation service again	1	2	3
11. Overall, I am satisfied with the quality of service being provided via the telephone consultation	1	2	3

Do you have any additional comments or suggestions about the way the service could be improved?
If so, please tell us _____

THANK YOU FOR YOUR HELP.

10.2 Annex B. Telephone and survey contact form

Table 6 Telephone follow contact form

Date	Phone Number	First Try	Second try	Third try	Remark
21/9/2020				x	
		x			
			x		
			x		
		x			
				x	
			x		
				x	

