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ORIGINAL RESEARCH

Caregivers' Satisfaction of Teleconsultations and Associated Factors During COVID-19 Pandemic at Pediatric Clinics of Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia: A Cross-Sectional Study

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Background: The COVID-19 pandemic led to a paradigm shift in routine care delivery with the widespread transition to virtual care without demanding preconditions. Caregivers' satisfaction is a critical parameter to ensuring the quality of clinical service in the pediatric population. Despite this fact, such patient-related factors are under-investigated and poorly documented in developing countries such as Ethiopia. The study was aimed to assess caregivers' satisfaction regarding teleconsultations and associated factors during COVID-19 pandemic at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia.

Methods: Health institution-based cross-sectional survey was conducted in randomly selected caregivers who were served with phone-based medical consultations during the pandemic. Data were collected by means of a pretested, structured interviewer-administered questionnaire. Data were entered into Excel 2016 and analyzed using SPSS version 26. Logistic regression models were used to predict the association of study variables and adjusted for possible confounders.

Results: Overall, 177 (61.5%) of participants reported satisfaction with the teleconsultation. Female caregivers (AOR=1.78; 95% CI 1.05, 3.01), having family support (AOR=2.6; 95% CI 1.45, 4.65), access to a nearby laboratory (AOR=2.18; 95% CI 1.24, 3.83), having access to nearby pharmacy (AOR=2.82; 95% CI 1.63, 4.86) were found to be predictors of caregivers' satisfaction with teleconsultation in the study area.

Conclusion: A considerable number of caregivers were satisfied with the teleconsultation service during the COVID-19 pandemic. It is important for healthcare providers and policy makers to strengthen the provision of teleconsultation service options for caregivers including women and those with better access to diagnostic centers and pharmacies. They should try to make teleconsultation caregiver-friendly.

Keywords: teleconsultation, caregivers' satisfaction, COVID-19, associated factors, Ethiopia

Introduction

The advent of the novel coronavirus disease 2019 (COVID-19) pandemic resulted in unprecedented drastic changes in every sector, including the healthcare sector. COVID-19 crisis forced institutions to exploit the available technologies in continuing the delivery of clinical practice amid the nationwide stringent travel restriction and requirements for physical and social distancing.[1] The effort to balance the ongoing need for patient care with the risks to patient and staff safety paved a way for a swift transition to virtual visits for routine care.[2–4] In practice, the precautions to contain the virus became an opportunity to exploit telemedicine features for clinical care.[5] As such, certain developed nations had nearly

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nine-fold increment in video visit consultations during the COVID-19 pandemic compared to the same previous period in an American health institution.[6]

The World Health Organization defines telemedicine as the delivery of healthcare services by any healthcare professional using technology for the exchange of valid information for the diagnosis, treatment, and prevention of health problems across geographic distance.[7,8] One of the main categories of telemedicine is teleconsultation, a technology-based, interactive communication between healthcare providers and patients or another health professional for delivering healthcare services.[9] Recent reports reiterated the fact that teleconsultation provides a considerable alternative to the face-to-face clinical visits in developed countries in general,[10,11] and pediatric population in particular.[12,13] Moreover, it is considered as an effective triage technique to assess patients' complaints, prevent unnecessary clinical visits, and reduce waiting time.[14]

Although some government and private health organizations in affluent countries had already established teleconsultation services years ago, the implementation of teleconsultation has not been popular in developing countries such as Ethiopia, particularly in the pre-COVID era.[8,10] Conversely, since the first case report of COVID-19 on 13 March 2020 at the capital city of the country, the Ethiopian government was promoting lockdown practices for highly affected cities such as Addis Ababa to exercise precautionary measures. A sizeable number of health facilities started to implement teleconsultations with the available technology resources to alleviate the congestion of hospitals and improve the utilization of medical resources. Particularly, certain departments of Tikur Anbessa Specialized Hospital (TASH), notably Endocrinology, Cardiology, and Neurology units, had activated teleconsultation services to provide health care to citizens while revoking outpatient clinic visits.

A number of factors influence the successful implementation of a telemedicine program, among which primary stakeholder satisfaction takes a central role.[15] The satisfaction of stakeholders, particularly patients (and caregivers in the setting of childcare) – the ultimate consumers – can impact the success and the extent to which telemedicine services are implemented.[16] Patient satisfaction, the extent to which patients are contented with the care delivered by a given health facility, has been described to be a critical measure of healthcare quality service and its outcome.[17] Patient and caregiver satisfaction in the case of telemedicine can directly impact the viability of the service.[18]

In Ethiopia, like other countries, phone-based, virtual consultations have been an essential component of the medical response to COVID-19 by reducing demand on the compromised healthcare infrastructure and enabling healthcare needs to be met at distance while reducing exposure for patients and medical staff.[5] Despite this, there is scarcity of research works regarding the perceived effectiveness of telemedicine in satisfying patient expectations and needs which can potentially impact its future implementation. This study is therefore designed with the principal purpose of assessing caregivers' satisfaction regarding teleconsultations and articulating associated factors that can contribute to their satisfaction during the COVID-19 pandemic at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia.

Methods

Study Area

The study was conducted at Pediatric Outpatient Department of Black Lion (Tikur Anbessa) Specialized Hospital, College of Health Sciences, Addis Ababa University, the largest referral hospital in Ethiopia. Black Lion is the main teaching center for both clinical and preclinical training of most health disciplines.

The study was conducted at chronic Pediatric OPDs of TASH, Addis Ababa, Ethiopia. Tikur Anbessa Specialized Hospital (TASH) is a tertiary hospital located in Addis Ababa, which is the capital city of the country. It is the largest and oldest public hospital of the country, providing a high level of clinical care for millions of people and training to health science students from different parts of the country and from the Horn of Africa. There are several specialty and sub-speciality clinics for the care of chronically ill patients, with over half a million patients visiting annually. This 700-bedded hospital employs 1021 physicians (faculties and postgraduate trainees), 379 nurses, 115 other health professionals, along with 950 permanent and contract administrative staff dedicated to providing a range of healthcare services.

The hospital is one of the few institutions in the country where well-functioning departments of Pediatric Neurology, Cardiology, and Endocrinology are available. Together, the units deliver clinical services for 2000–2600 patients with various clinical problems, with seven dedicated outpatient clinics with additional phone-based consultations during

COVID-19 crisis. The hospital was selected for this study because it provides services to a relatively large size of population from different parts of the country with a range of clinical conditions, besides its record of teleconsultations.

Study Design and Sampling Procedures

Health institution-based, cross-sectional study design was employed at the Pediatric Outpatient Department (OPD) of Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, from April 1st to September 30th, 2021.

Sample size was determined using single population formula with the assumption of the proportion of patients who were satisfied with teleconsultation to be 59.4% from previous reports,[19] with 5% level of significance. With these assumptions, the minimum required sample size was 371. However, the total number of (caregivers of) children who were offered teleconsultation service was 1170, and adjustment was made, and with addition of 10% nonresponse rate, the final sample size required for this study was 299.

Respondents were selected principally using proportion of population calculated in each unit. Initially all the three pediatric chronic outpatient departments that delivered teleconsultations were involved, then sample size allocations were calculated according to the number of children having regular follow-up in each unit during the study period (Cardiology=350, Neurology=510, and Endocrinology=310). Systematic random sampling was used to select the study subjects from each unit.

Data Collection

Data were collected from patients' caregivers using a structured, pre-tested interviewer-administered data collection tool, and corresponding patients' medical records were retrieved and reviewed whenever needed. The data collection format includes questions divided into three parts (background information, clinical variables, and patient satisfaction parameters regarding teleconsultation). The final portion was adapted from the Telehealth Usability Questionnaire (TUQ), which is five-point Likert scale with adequate psychometric characteristics.[20] Caregivers were approached for interview after taking their medical record numbers from logbooks at each study unit over the study period (from April 1st, 2020 to March 31st, 2021). Two professional healthcare workers were recruited and trained on data collection procedures.

The data collectors and supervisors were recruited based on their previous experience in data collection using telephone, relevance of qualification (residents), and ability in the local language. Training was given for three days to make them familiar with the tool and interview techniques. Emphasis was given to ethical issues, privacy, and safety of the study subjects and the interviewers. The data collection tools were pre-tested in the same units on 10% of the total sample size, but the samples used for pretest were excluded from the actual data collection.

A field work manual was developed by the principal investigator and used by all research teams. To ensure the quality of the data and minimize inter-interviewer variation, about 5% of the respondents were reinterviewed at random by the principal investigator and supervisors and checked for consistency. In addition, daily check and follow-up were done by the supervisors and investigator.

Measurement

The primary outcome variable was the self-reported satisfaction of parents of children with chronic illness with the teleconsultation service, measured using satisfaction-assessing twenty-six items, using a five-point Likert scale. Participants who scored equal to or above the mean were categorized as satisfied, and those scoring below the mean were considered to be dissatisfied.

Covariates included were children's age, caregivers' age, sex of the patient, residence, marital status, ethnicity, family support, educational status, average monthly income, type of job, language barrier, community-based health insurance system use, hearing difficulty, phone audibility, access to laboratory, access to a nearby pharmacy, duration of the illness, presence of comorbidities, type of drug taken, and number of drugs.

Caregiver

The caregiver was defined as any family member or guardian of the child irrespective of biologic relationship with the index child.

Patient Satisfaction

The patient's perspective of care which can be objective and meaningful to create comparisons of hospitals and other healthcare organizations as measured by the TUQ tool.

Good Satisfaction

An individual was considered as satisfied if he/she answered above the mean of the respondents' score out of the satisfaction assessing items of the telehealth usability questionnaire (TUQ) tool.

Poor Satisfaction

A participant was considered dissatisfied if he/she answered below the mean of the respondents' score out of the satisfaction assessing items of the telehealth usability questionnaire (TUQ) tool.

Miscellaneous Diseases

Neurologic, cardiac, or endocrine disease entities apart from the commonly occurring ones, including genetic syndromes, rarer endocrinologic diseases, malnutrition, etc.

Analysis

Pre-coded responses were double-entered in EPI Info version 3.5.2 software, and in order to check consistency the data were exported to SPSS (Statistical Package for Social Sciences) Windows version 26 for statistical analysis. Percentage, frequency, bivariate, and multiple logistic regression analysis were used. Variables found to be significant at bivariate level ($P<0.05$) were selected and included in multiple logistic regression analysis model used to calculate odds ratio with 95% confidence interval to estimate association and to control the potential confounding variables. Strength and direction of the association were presented using the odds ratios relative to the reference category and 95% confidence level.

Ethical Consideration

The research was approved for scientific and ethical integrity by the Institutional review board (IRB) of the Department of Pediatrics and Child Health, College of Health Science, Addis Ababa University. Written permission letter was obtained from the department. Consent was obtained from respective unit heads. Prior to data collection, verbal consent was obtained from individual clients, who participated in the study. In order to make informed decision, sufficient information was given to each participant. Confidentiality was strictly maintained for each piece of information, and the interview was conducted in strict privacy. At the end of the interview general information, referral, and follow-up linkages were made for those who needed it. The investigators would like to confirm that this study was conducted in accordance with the Declaration of Helsinki.

All authors confirmed that the verbal consent was approved by the Ethical Committee Department of Pediatrics and Child Health, College of Health Sciences, Addis Ababa University, minute number DRPC/008/14, June 20, 2014.

Results

Socio-Demographic Characteristics of the Study Participants

A total of 299 caregivers of children with chronic medical conditions receiving teleconsultation services during COVID-19 pandemic from TASH were approached, and 288 caregivers consented to participate in the study, giving a response rate of 96.3%. Participants' age ranged from 22 to 65 with a median age (interquartile range) of 38 (34–42) years. The corresponding median (interquartile range) age of children was 7[5–9] years, with the range extending from 2.8 to 13.5 years. Females accounted for 169 (58.7%) of the study population, with a male-to-female ratio of 0.7:1. Two hundred twenty-eight (79.2%) of the study participants were urban dwellers, and 202 (70.1%) of them were married (Table 1).

Most of the participants were from Oromo, 107 (37.2%), and Amhara, 90 (31.3%), ethnic groups. Hundred and five (36.5%) were self-employed, and the average monthly income ranged from 3251 to 6000 ETB. The majority, 215 (74.7%), of the study participants stated that they had some kind of social support from their own significant others, likewise 168 (58.3%) of the respondents were enrolled to the on-site community-based health insurance (CBHI) system.

Table 1 Socio-Demographic Profile of Caregivers of Children with Chronic Medical Conditions Receiving Teleconsultation Services During COVID-19 Pandemic at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2021 (*n*=288)

Variable	Frequency	Percent (%)
Caregivers' age group		
≤25 years	12	4.2
26–35 years	100	34.7
36–45 years	133	46.2
>45 years	43	14.9
Children's age group		
<5 years	49	17.5
5–10 years	198	68.8
>10 years	41	14.2
Sex		
Male	119	41.3
Female	169	58.7
Residence		
Urban	228	79.2
Rural	60	20.8
Current marital status		
Unmarried	56	19.4
Married	202	70.1
Divorced	20	6.9
Widowed	10	3.5
Ethnicity		
Oromo	107	37.15
Amhara	90	31.25
SNNPR	47	16.32
Tigre	25	8.68
Other	19	6.60
Educational status (*n*=296)		
No formal education	33	11.46
Primary education	65	22.60
Secondary education	94	32.64
College diploma +	96	33.30

(*Continued*)

Table 1 (Continued).

Variable	Frequency	Percent (%)
Employment status		
Self-employed	105	36.5
Employed	83	28.8
Housewife	60	20.8
Daily laborer	16	5.6
Unemployed	13	4.5
Other	11	3.8
Wealth index		
Lower	97	33.68
Middle	107	37.15
Higher	84	29.17
Family support		
Yes	215	74.7
No	73	25.3
Enrolled to Community-based health insurance (CBHI)		
Yes	168	58.3
No	120	41.7
Laboratory access		
Yes	187	64.9
No	101	35.1
Pharmacy access		
Yes	158	54.9
No	130	45.1
Phone audibility issue		
No	278	96.5
Yes	10	3.5
Noise disturbance		
No	269	93.4
Yes	19	6.6

About two-thirds, 187 (64.9%), had a reasonable access to a nearby laboratory facility for a routine diagnostic investigation, whereas 158 (54.9%) of the participants claimed to have access to a pharmacy to obtain virtually prescribed medications. Finally, most, 278 (96.5%), of the participants reported not to have any sort of audibility problem related to their mobile phone, while only 19 (6.6%) had reportable noise disturbance in their living area (Table 1).

Clinical Characteristics of Children

The most frequent diagnoses for which teleconsultation service was sought were seizure disorder, diabetes mellitus, and congenital heart disease, appearing in 97 (33.7%), 62 (21.5%), and 60 (20.8%), respectively (Figure 1). In relation to the time since the index diagnosis was made by a health professional, 153 (53.1%) had a disease duration that extended from five to ten years by the time of data collection. Besides, more than one-fifth (63, 21.9%) of them had some sort of coexisting medical condition. Among these, the most commonly identified were: other neurologic disorders, 10 (15.9%); congenital heart diseases, 10 (15.9%); and other miscellaneous disease entities, 21 (33.3%) (Table 2).

Furthermore, the majority, 166 (57.6%), of the children were on monotherapy, while 104 (36.1%) were taking multiple medications regularly. Again, more than two-thirds, 183 (67.8%), of the medicated children were on oral pharmacologic agents, while about a quarter, 66 (24.4%), were taking injectable medications. Finally, only six (2.1%) of the caregivers mentioned having some degree of hearing difficulty (Table 2).

Teleconsultation-Related Characteristics

In relation to the number of teleconsultation sessions used, close to half, 124 (43.1%), reported to have used the service twice before the data collection period. The most common reason for using the service was due to routine follow-up, which was mentioned by 269 (93.4%) of the caregivers. The two most common type of care received were drug prescription, 274 (95.1%), and appointment scheduling, 274 (95.1%) (Table 3).

Caregivers' Satisfaction

In this study, caregivers' satisfaction with regard to teleconsultation was measured using a telehealth usability questionnaire satisfaction-assessing twenty-six items, using a five-point Likert scale. Participants who scored equal to or above the mean were categorized as satisfied, and those scoring below the mean were considered to be dissatisfied; as a result, 177 (61.5%) had good satisfaction level, while the remaining 111 (38.5%) were not satisfied with the service, as portrayed in Figure 2.

Factors Associated with Caregivers' Satisfaction

In this study female caregivers reported higher satisfaction (AOR, 1.78; 95% CI 1.05 to 3.01) than their male counterparts. Furthermore, caregivers with self-reported social support were more likely to be satisfied with the teleconsultation service (AOR, 2.6; 95% CI 1.45 to 4.65) than those who reported not to have such support. Caregivers with a reasonable

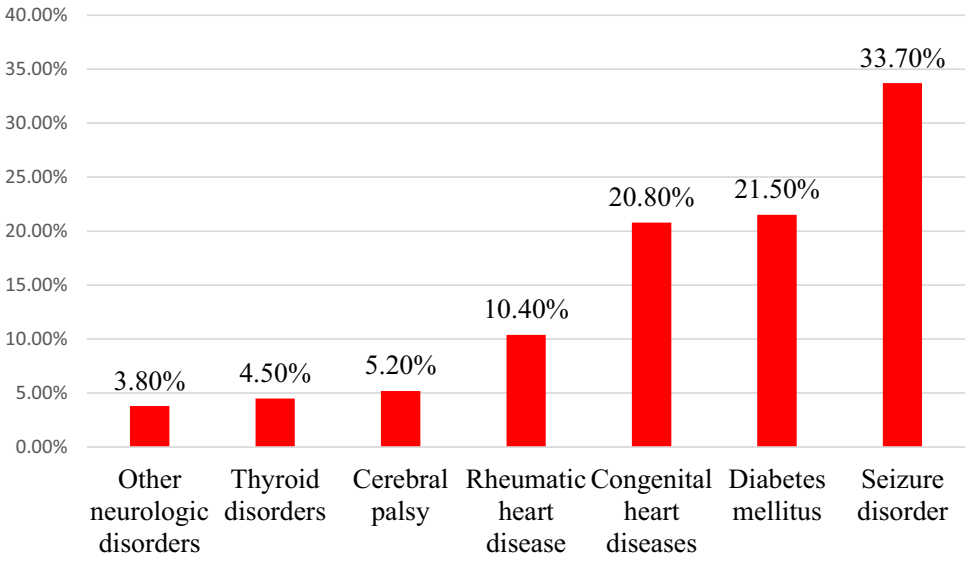

Figure 1 Diagnosis of children with chronic medical conditions receiving teleconsultation services during COVID-19 pandemic at Tikur Anbessa Specialized Hospital (TASH), Addis Ababa, Ethiopia, 2021 (*n*=288).

Table 2 Clinical Details of Children with Chronic Medical Conditions Receiving Teleconsultation Service During COVID-19 Pandemic at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2021 (*n*=288)

Variable	Frequency	Percent (%)
Duration of illness		
<5 years	104	36.1
5–10 years	153	53.1
>10 years	31	10.8
Presence of comorbidity		
Yes	63	21.9
No	225	78.1
Type of comorbidity (*n*=60)		
Cerebral palsy	2	3.33
Diabetes mellitus	4	6.67
Rheumatic heart disease	6	10.00
Other endocrine disorders	7	11.67
Other neurologic disorders	10	16.67
Congenital heart disease	10	16.67
Miscellaneous	21	35.00
Number of drugs		
0	18	6.3
1	166	57.6
2	63	21.9
≥3	41	14.2
Drug type (*n*=270)		
Oral	183	67.8
Injectable	66	24.4
Both	21	7.8
Hearing problem		
Yes	6	2.1
No	282	97.9

access to laboratory facilities had higher odds of being satisfied (AOR, 2.18; 95% CI 1.24 to 3.83) than those who claimed not have such an access.

Similarly, caregivers who claimed to have access to a nearby pharmacy showed higher likelihood of being satisfied (AOR, 2.82; 95% CI 1.63 to 4.86) than those that did not have pharmacy access (Table 4).

Table 3 Teleconsultation-Related Characteristics of Caregivers of Children with Chronic Medical Conditions Receiving Teleconsultation Services During COVID-19 Pandemic at Tikur Anbessa Specialized Hospital (TASH), Addis Ababa, Ethiopia, 2021 (*n*=288)

Variable	Frequency	Percent (%)
Number of teleconsultation use (*n*=288)		
Once	49	17.0
Twice	124	43.1
≥Three times	115	39.9
Reason for use of teleconsultation (multiple answer; *n*=339)		
New complaint	9	2.65
Routine follow-up	269	79.35
Emergency refill	42	12.39
COVID-19 related	19	5.61
Type of care provided (multiple answers; *n*=598)		
Reassurance	50	8.36
Drug prescription	274	45.82
Appointment	274	45.82

Discussion

This study was conducted with the purpose of exploring caregivers' satisfaction level regarding teleconsultations and its contributing factors during the COVID-19 pandemic, by examining the case of pediatric clinics of TASH, Addis Ababa, Ethiopia. Subsequently, the findings demonstrated several important findings. It highlighted that the majority of the caregivers were satisfied with the teleconsultation, while revealing that factors such as female sex, having family support, and having access to a nearby laboratory and pharmacy increased satisfaction levels.

Overall, it was shown that 61.5% of the studied caregivers had good level of satisfaction with respect to teleconsultation service. This is close to the high satisfaction level (43.8% very satisfied; 38.2% satisfied) reported by Australian authors among caregivers of pediatric ophthalmology patients.[21] In contrast, the present finding is relatively lower than the American report that showed that most (94.2%) of caregivers "agreed" or "strongly agreed" that they were satisfied

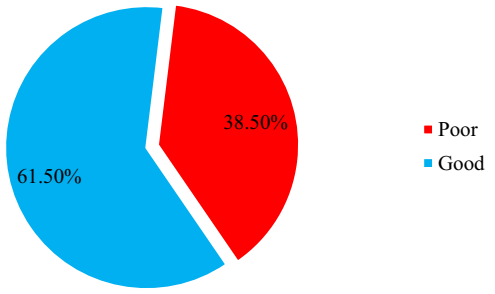

Figure 2 Satisfaction level of caregivers of children with chronic medical conditions receiving teleconsultation services during COVID-19 pandemic at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia.

Table 4 Factors Influencing Satisfaction Levels of Caregivers of Children with Chronic Medical Conditions Receiving Teleconsultation Services During COVID-19 Pandemic at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2021 (*n*=288)

Variable	Satisfaction		COR (95% CI)	AOR (95% CI)
	Good (%)	Poor (%)	Crude Odds Ratio	Adjusted Odds Ratio
Sex				
Male	64 (53.8)	55 (46.2)	1:00	1:00
Female	113 (66.9)	56 (33.1)	1.73 (1.07, 2.81)	1.78 (1.05, 3.01)*
Family support				
Yes	144 (67.0)	71 (33.0)	2.46 (1.43, 4.23)	2.60 (1.45, 4.65)**
No	33 (45.2)	40 (54.8)	1:00	1:00
Laboratory access				
Yes	131 (70.1)	56 (29.9)	2.80 (1.69, 4.62)	2.18 (1.24, 3.83)**
No	46 (45.6)	55 (54.4)	1:00	1:00
Pharmacy access				
Yes	119 (75.3)	39 (24.7)	3.79 (2.30, 3.25)	2.82 (1.63, 4.86)*
No	58 (44.6)	72 (55.4)	1:00	1:00

Notes: **P* value <0.05; ***P* value <0.01; Reference category 1:00.

with the telemedicine services they received.[22] Furthermore, our finding is lower than previous Indian and American studies that documented that more than 90% of the caregivers were satisfied with the quality of service, convenience, and benefits of teleconsultation in Indian[13] and American settings.[3] It was also quite different from the parents' satisfaction (94.2%) observed with pediatric urology telemedicine in American context[12] and the level (80.5%) reported in Italy.[23]

The discrepancies in satisfaction profiles across the different settings can be justified by multiple reasons. Among others, the differences can be attributed to variation in study period, methodological design, socio-clinical characteristics of study population, and the instruments used to measure outcome, that is, satisfaction along with the cutoff point. For example, the study conducted in Italy included children receiving tele-rehabilitation services,[23] while the current study gathered data derived from patients having follow-up at different pediatrics outlets.

Moreover, almost all of the teleconsultations carried out in the present study setting were cellphone-based audio calls, unlike that of developed countries, where formal high-end video conferencing systems exist along with the features of store-and-forward of images.[12,13] The difference might also be because our study involved resident physicians who lacked preexisting relationships with patients and their caregivers, while other studies involved primary care providers who had established long-standing rapport with their patients.[18]

On the other hand, this study showed that female caregivers were much more likely than men to be satisfied with teleconsultation service. This may be due to the fact that they are traditionally burdened with the role of caregiving and might be comfortable with the advantages of teleconsultation, offering them the opportunity of saving money and reducing transportation costs.

Further, having family support was shown to increase likelihood of caregivers' satisfaction. This is consistent with the previous observations that individuals living alone were more dissatisfied with doctors' information than those living with family.[24] This finding appears to be in line with the previous reports that showed that social support is positively related with health outcomes and quality of life of chronic disease patients,[25,26] which in turn could add on the satisfaction profile with regard to patient care.

Finally, this study indicated that having access to a nearby diagnostic laboratory and pharmacy contributed to increased satisfaction levels among caregivers. This might agree with the previous study that observed that a significant role was played by contextual factors such as travel and financial cost savings with respect to telemedicine use in pediatric nephrology patients.[27] This can be because patients who have better access to virtually ordered diagnostic investigations and medicines at an equivalent facility located in their vicinity are more likely to utilize teleconsultation service under normal circumstances. The positive association between access to prescribed medications and family satisfaction observed in the current study is in agreement with the works of Phuong and others who showed that poor access to pharmaceutical care was a predominant reason for adverse patient outcome.[28]

Limitations

Our study has several limitations; the cross-sectional nature of the study may cause difficulty of determining the direction of the association between study variables, and the association can only be discussed in terms of plausibility. There was a risk of social desirability bias whereby parents may over- or underreport their satisfaction. As to the strengths of this study, the respondents have been selected by random sampling technique with a relatively representative sample size. Precautions have been taken during the selection of experienced data collectors, and this is the first study in an Ethiopian context to explore satisfaction of caregivers with regard to teleconsultation from a pediatric perspective.

Conclusion

This study highlighted that teleconsultation is a viable and convenient mode of service delivery in the pediatric population during COVID-19 pandemic, with good caregiver satisfaction levels for children with chronic diseases. Female caregivers, and those having family support, and access to nearby laboratory or pharmacy had significant satisfaction levels in this particular study. It is important for healthcare providers and policy makers to strengthen or consider providing teleconsultation service options for caregivers including women and those with better access to diagnostic centers and pharmacies. It is important to make teleconsultation caregiver-friendly; a program should be instituted to provide the option of telemedicine for routine pediatric follow-up care, and thereby adopting hybrid in-person and virtual care models for stratified patients.

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis, and interpretation, or in all these areas; took part in drafting, revising, or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

Disclosure

We declare that there are no financial or non-financial competing interests related to this study.

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