

A survey-based study examining patient acceptability of a teledermatology consult service in Bagamoyo, Tanzania



To the Editor: Dermatologic diseases are the fourth leading cause of nonfatal disease burden worldwide¹ which is further emphasized in resource-poor settings with limited access to care. In Africa, there is less than 1 dermatologist per million people.² Dermatologists are underrepresented to meet the needs of the population, and care is often provided by general clinicians and rural health care workers with limited dermatology training.³ Teledermatology has been demonstrated to increase access to care in African countries when developed through partnerships between local and afar providers.⁴ The use of a store-and-forward teledermatology consult service was implemented collaboratively with local clinicians to improve access to care and train clinicians in dermatology in Bagamoyo, Tanzania (Table I). Evaluating patient acceptability of teledermatology is important in determining feasibility of its implementation at Bagamoyo District Hospital.

Patients who utilized teledermatology were offered an in-person survey that assessed their knowledge of and comfort with teledermatology, and factors related to quality of care. Descriptive statistical analysis was performed. A total of 130 surveys were obtained with a 100% response rate for consultations submitted over 6 months (Table II). Furthermore, 96.2% of patients had not previously heard of teledermatology. Regarding use of teledermatology, patients were equally concerned about quality of care, time to diagnosis, and privacy; however, 99.2% of patients felt comfortable having skin concerns diagnosed via teledermatology, 92.3% reported no quality of care concerns with teledermatology, and 100% believed that they would receive the same quality of care as a face-to-face interaction. Patients were generally comfortable with photographs being taken for teledermatology with most body parts (>90% acceptability) but were least comfortable with photographs of their genitals (29.2% acceptability). Most patients were willing to wait 1 week for a diagnosis. Lower cost was indicated as the top factor that would make it easier for patients,

Table I. Key research events

- A pilot phase of the study was performed by the Medical College of Wisconsin coprincipal investigator in collaboration with local clinicians that determined there was a need for dermatologic care in Bagamoyo, Tanzania, and identified key physician collaborators (July, 2018-August, 2018).
- Stakeholders identified include 2 Bagamoyo District Hospital physicians/clinicians that will utilize the teledermatology consult service and collect the surveys, one supervising physician and coprincipal investigator from the Ifakara Health Institute that coordinates research efforts of the Bagamoyo team, and the Medical College of Wisconsin team of medical students led by a coprincipal investigator dermatologist. Regularly scheduled video meetings and emails are utilized to convey information between stakeholders.
- The Medical College of Wisconsin team and Bagamoyo team collaborated on creation of all study material including IRB, survey questions, and protocol (December, 2019-December, 2021).
- Surveys were collected from patients who utilized the teledermatology consult service. Signed informed consent was obtained prior to survey administration (January, 2022-June, 2022).
- Data collected on common skin diseases, teledermatology feasibility/acceptability, and ways in which Bagamoyo partners would like to expand projects. Continued community education outreach efforts at local schools (May, 2022-August, 2022).

IRB, Institutional Review Board.

followed by less travel, reduced time away from home/work, and ease in scheduling (Table II).

Overall, our study demonstrates patient comfort and acceptability of the teledermatology consult service and supports the feasibility of its implementation at Bagamoyo District Hospital in Bagamoyo, Tanzania. The discrepancy between quality of care concerns with teledermatology and the comparison with quality of care of face-to-face interactions may imply that surveyed patients may have concerns with face-to-face dermatologic care. We hope that the teledermatology can build trust within the clinician-patient relationship. Our goal is to support local clinicians in providing dermatologic care and further educate with teledermatology in a sustainable model while forming local partnerships with in-country dermatologists. With continued teledermatology use, clinicians will likely evaluate similar skin conditions and learn from the previous consults and management plans.⁴ This platform satisfies a clinical need and provides training opportunity for physicians while

Table II. Survey results

Sex		
Male	55	42.30%
Female	75	57.70%
Age		
<18 y old	9	6.90%
18-20 y old	21	16.20%
20-30 y old	45	34.60%
30-40 y old	38	29.20%
40-50 y old	11	8.50%
>50 y old	6	4.60%
Education		
Primary school	42	32.30%
Secondary school	30	23.10%
Diploma	45	34.60%
Completed some postgraduate	1	80.00%
Master's degree	0	0.00%
Graduate degree	0	0.00%
None	11	8.50%
Employment status		
Employed	59	45.40%
Unemployed	54	41.50%
Student	15	11.50%
Retired	2	1.50%
Marital status		
Single	50	38.50%
Married	80	61.50%
Widowed	0	0.00%
Divorced	0	0.00%
Separated	0	0.00%
Average per clinic visit		
Travel time	105 min	
Distance traveled	14 km	
Cost	9.50 USD	
Factors that would make it easier for patients to receive dermatologic care (n = 130)*		
Lower cost	112 (86.2%)	
Less travel	92 (70.8%)	
Reduced time away from home/work	73 (56.2%)	
Ease in scheduling	50 (38.5%)	
Other	2 (1.5%)	
Concerns with tele dermatology (n = 130)*		
Quality of care	120 (92.3%)	
Time to diagnosis	116 (89.2%)	
Privacy	110 (84.6%)	
Comfortable having skin concerns diagnosed via tele dermatology consult service (n = 130)		
Yes	125 (96.2%)	
No	5 (3.8%)	
Quality of care from tele dermatology consult service will be the same as face-to-face interaction (n = 130)		
Yes	130 (100%)	
No	0 (0%)	

Continued

Table II. Cont'd

Body parts patients felt comfortable being photographed for tele dermatology consult service (n = 130)*	
Arms	130 (100%)
Legs	129 (99.2%)
Head/Neck	128 (98.5%)
Face	119 (91.5%)
Genitals	38 (29.2%)
Length of time patient is willing to wait to receive follow-up treatment from tele dermatology consult service (n = 130)	
Same day	26 (20%)
Next day	34 (26.2%)
1 wk	63 (48.5%)
Greater than 1 wk	7 (5.4%)

Supplementary Fig 1, available via Mendeley at <https://data.mendeley.com/datasets/dbyrjgpk2z/2>.

*Participants were able to choose multiple answers.

increasing patient satisfaction by mitigating identified barriers such as cost, travel, and time away from home/work. A key factor in the success of this model is the creation of a sustainable partnership, with a need initially identified with a pilot study and then supported by regular meetings to address any questions or concerns (Table I). Ensuring local Bagamoyo clinicians and stakeholders have an equal partnership in this research is crucial to decolonizing global health dermatology.⁵

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Patient consent: Consent for the publication of all patient photographs and medical information was provided by the authors at the time of article

submission to the journal stating that all patients gave consent for their photographs and medical information to be published in print and online and with the understanding that this information may be publicly available.

Key words: dermatology; global health; patient satisfaction; patient survey; teledermatology; telemedicine.

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Conflicts of interest

None disclosed.

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