

Teledermatology Practice in Nigeria: A Review of our Experience

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ABSTRACT

Background: The provision of teledermatology services will greatly improve access to skin care in Nigeria where there are few dermatologists. There is no established model for the practice of teledermatology in Nigeria. We established a teledermatology service (www.mydermatologyconsult.com.ng) in 2016 to mitigate this problem. We reviewed the activities on the site in the first two years.

Method: This was a retrospective review of the activities on the website from February 2016 to January 2018. The administrative end of the website was assessed and data from the patients were retrieved and analyzed.

Result: Six hundred and eighty-three persons visited the site during the period of review. Nine persons signed up and submitted their clinical history and photographs for review by the dermatologist. Seven were females while 2 were males. The mean age of the patients was 23.00 ± 2.55 years. All the patients complained of itching while 7 complained of rashes. Only 3 persons paid the consultation fee of N5,000 (\$11). Among those that registered, 2 persons were diagnosed with urticaria, while one person was diagnosed with atopic dermatitis.

Conclusion: There was a high interest in accessing a teledermatology site among Nigerians. However few persons were willing to sign-up and pay the registration fee for unclear reasons. Majority of the patients will eventually require face-to-face consultation because of the chronic nature of their disease. There is a need for a survey to determine the reasons for the few sign-ups.

Keywords: teledermatology, dermatology service, physical consultation

La Pratique de La Télédermatologie au Nigeria: une Revue de Notre Expérience

ABSTRAIT

Contexte: La fourniture de services de télédermatologie améliorera considérablement l'accès aux soins de la peau au Nigeria où il y a peu de dermatologues. Il n'y a pas de modèle établi pour la pratique de la télédermatologie au Nigeria. Nous avons créé un service de télédermatologie (www.mydermatologyconsult.com.ng) en 2016 pour atténuer ce problème. Nous avons passé en revue les activités sur le site au cours des deux premières années.

Méthode: Il s'agissait d'un examen rétrospectif des activités sur le site Web de février 2016 à janvier 2018. La partie administrative du site Web a été évaluée et les données des patients ont été récupérées et analysées.

Résultat: Six cent quatre-vingt-trois personnes ont visité le site au cours de la période d'examen. Neuf personnes se sont inscrites et ont soumis leurs antécédents cliniques et des photographies pour examen par le dermatologue. Sept étaient des femmes tandis que 2 étaient des hommes. L'âge moyen des patients était de $23,00 \pm 2,55$ ans. Tous les patients se sont plaints de démangeaisons tandis que 7 se sont plaints d'éruptions cutanées. Seulement 3 personnes ont payé les frais de consultation de 5000 (11 \$). Parmi ceux qui se sont inscrits, 2 personnes ont reçu un diagnostic d'urticaire, tandis qu'une personne a reçu un diagnostic de dermatite atopique.

Conclusion: Il y avait un grand intérêt pour accéder à un site de télédermatologie parmi les Nigériens. Cependant, peu de personnes étaient disposées à s'inscrire et à payer les frais d'inscription pour des raisons peu claires. La majorité des patients auront éventuellement besoin d'une consultation en face à face en raison de la nature chronique de leur maladie. Une enquête est nécessaire pour déterminer les raisons du peu d'inscriptions.

Mots Cle: La Télédermatologie, service de dermatologie, consultation en face à face

Introduction

Teledermatology (TD) is the application of telemedicine in the field of dermatology practice.¹ It involves communication through the use of virtual networks in practicing clinical dermatology. It is a rapidly evolving field of dermatology with good capacity to increase access to dermatology care globally. Over the last decade, TD has improved with many TD projects established in different parts of the world.²⁻⁴ The onset of the Covid-19 pandemic with recent lockdowns has further revealed the importance of TD practice.^{5,6} In Nigeria where the number of dermatologists is limited, the need for TD practice is obvious. There are various telemedicine platforms in Nigeria but without emphasis on TD. We established a TD platform (www.mydermatologyconsult.com.ng) to provide access to dermatology care in Nigeria. We reviewed the activities on the website over the first two years.

The Teledermatology project

The www.mydermatologyconsult.com.ng was established in 2016 by Dr. Emeka Okoro, a dermatologist and Mr. Saheed Shittu, an information technology specialist who both work at Federal Medical Centre Keffi, Nasarawa State Nigeria. It operates by the “store and forward” method type of TD. Prospective patients who desire to consult a dermatologist register on the website, answer some questions about their skin problems and subsequently upload pictures of the skin lesions. The information is received and reviewed by the dermatologist who responds to the patient through the patient's email. Files (soft and hard copies) are created for patients for storage of health information.

Methodology

This was a retrospective review of all the activities on the website from February 2016 to January 2018. Ethical approval was obtained from the health research ethics committee of Federal Medical Centre, Keffi, Nasarawa State. The backend of the website was accessed and data from visitors to the website were retrieved and analyzed.

Result

Six hundred and eighty-three persons visited the site

during the period of review. Nine (0.01%) persons signed up and submitted their clinical history and photographs for review by the dermatologist. Seven of the nine patients were females while 2 were males. The mean age of the patients was 23.00 ± 2.55 years. All the patients complained of itching which was the commonest reason for consultation. Only 7 of the 9 patients complained of associated rashes. All patients suffered from chronic skin diseases as the duration of their complaints ranged from 6 to 48 months with a mean duration of 18.22 ± 14.81 months. Only 3 persons paid the consultation fee of N5,000 (\$11). Among those who did, 2 persons were diagnosed with urticaria, while one person was diagnosed with atopic dermatitis. Of the other 6 persons who could not pay the consultation fee, two had nodular prurigo, one had lichen planus, one had hand dermatitis and two persons had generalized pruritus of unknown cause. A summary of the cases is shown in Table 1. All the consultations were completed within 48 hours. The main challenge was the quality of the pictures; most of them had insufficient lighting which did not give a clear enough picture.

Discussion

This is one of the first reviews of TD practice in Nigeria. We found a high interest in the TD site in terms of visits, but a low rate of use of the site for dermatology consultations. The reasons for this low patronage may be related to the fact that TD is new in Nigeria and the confidence of patients in such a system is still low. In addition, our website was not linked with any identifiable health institution where patient care could be continued subsequently. A review of the African Teledermatology Project revealed good patronage from patients. It is an institutional-based project among health centres in Africa in collaboration with dermatology departments in the US and Austria.⁴ The project employed the store and forward method of TD in which patients are seen by physicians in African hospitals. Patient's clinical data including photographs were shared with their partners. Recommendations from the dermatologist were subsequently implemented by the referring physician. This direct interaction with the referring physician improves patient's confidence in TD. Moreover, it is also possible that some of the patients

could not afford to pay the registration fee. Therefore, it is important to examine for other reasons for the low patronage.

The pattern of skin diseases diagnosed through the TD service varied, however all the patients presented with chronic skin diseases and with itching as the commonest feature. This is not unexpected as most patients with chronic skin diseases usually try different methods of treatment before seeking specialist care. Their common use of over-the-counter and alternative medicine clouds the dermatological picture and contributes to the worsening of most of the skin conditions. A review of other TD services revealed a wide range of skin diseases diagnosed through TD which usually mirrors the pattern of skin diseases in the environment.⁷⁻⁹

Most of the patients diagnosed through our TD service will require further investigations in the

hospital. This is important because of the nature of their diseases. Urticaria and pruritus require further investigations to identify underlying causes. Hand dermatitis will require a patch test while lichen planus will require a skin biopsy. The experience from the African teledermatology project revealed that investigations like histology would highly complement diagnosis through TD platforms.¹⁰

In conclusion, TD service holds great promise for dermatology care in Nigeria. Such TD platforms need to be linked to identifiable health institutions for subsequent continuity of care and improved confidence of the patients. Further studies will be required to understand the view of Nigerian patients with regards to telemedicine.

The authors declare no conflict of interest

Table 1. The summary of all the cases seen with the period of review

| S/N | Age (years) | Duration (months) | Diagnosis | Outcome |
|-----|-------------|-------------------|---------------------------|--|
| 001 | 19 | 8 | Urticaria | Registered, treated and referred to nearby hospital for further investigations |
| 002 | 25 | 24 | Prurigo nodularis | Registered but failed to pay the consultation fee |
| 003 | 22 | 36 | Atopic dermatitis | Registered, treated and continued with monthly follow up |
| 004 | 24 | 6 | Urticaria | Registered, treated and referred to nearby hospital for further investigations |
| 005 | 25 | 12 | Pruritus of unknown cause | Registered but failed to pay the consultation fee |
| 006 | 21 | 12 | Prurigo nodularis | Registered but failed to pay the consultation fee |
| 007 | 25 | 6 | Lichen planus | Registered but failed to pay the consultation fee |
| 008 | 20 | 48 | Hand dermatitis | Registered but failed to pay the consultation fee |
| 009 | 26 | 12 | Pruritus of unknown cause | Registered but failed to pay the consultation fee |

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