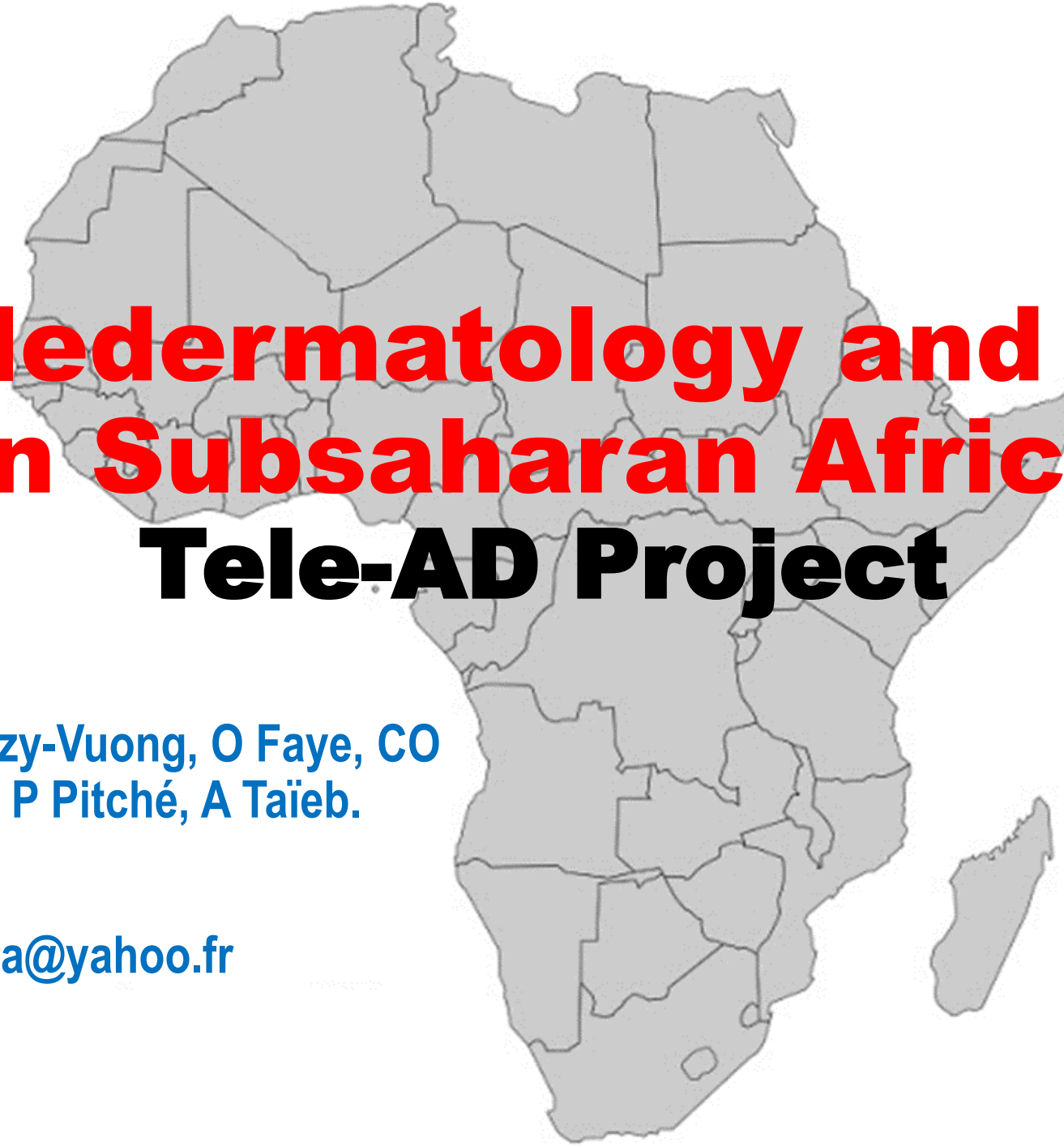

Teledermatology and AD in Subsaharan Africa

Tele-AD Project

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Conflict of interest

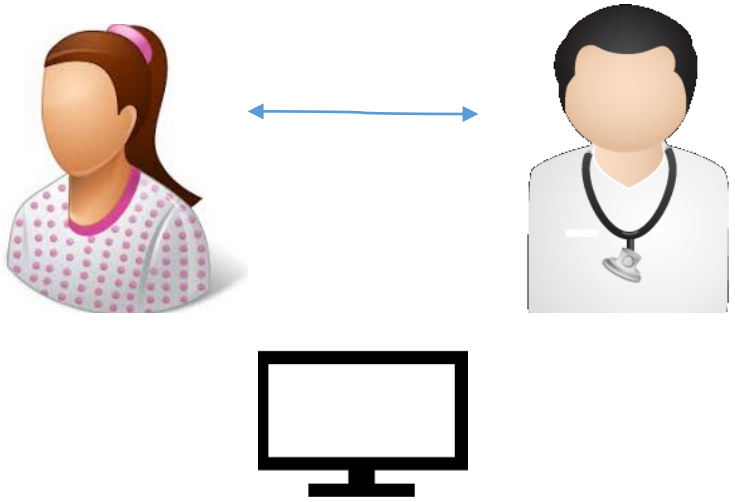
- None

Overview

1. Teledermatology in Subsaharan Africa
2. Atopic dermatitis in Subsaharan Africa
3. Tele AD Project: applications for AD management

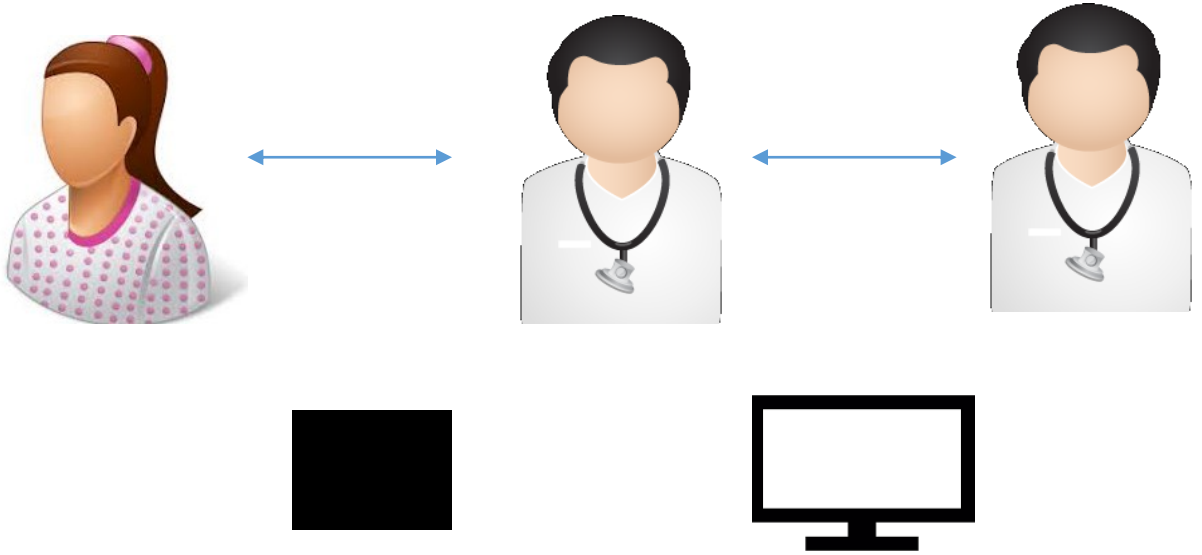
Teledermatology procedures

- Teleconsultation



Live Video

- Teleexpertise



Store and Forward
Pictures/ asynchronus

Telemonitoring, teleassistance, medical regulation

Teledermatology Programs/projects in Africa

Multiple countries

- **RAFT**: 20 countries
- **Africa Teledermatology Project**: 12 countries

National Initiatives

- **Ghana**
- **Mali**: TelederMali©
- **Mauritania**
- **South Africa**
- **Tanzania**
- **Togo**

RAFT : Réseau en Afrique Francophone pour la Télémédecine

- **French speaking african countries network in telemedicine**
- **« Supporting care professionals where they are most needed »**
  - **Dudal** (E- learning): Low-bandwidth distance education
    - Interactive webcasting, 20-30 kbps bandwidth
  - **Bogou** (Web/mobile based platform)
- founded by the university of Geneva,
- 1000 health practitioners
  - Cardiology (electrocardiograms), gynecology (discussing difficult cases)
  - Teleechography, teleradiology, dermatology

http://raft.g2hp.net/

Africa teledermatology project (ATP)

africa.telederm.org

- 12 countries : Uganda, Botswana, Malawi, Swaziland, Burkina Faso, Lesotho, Kenya, South Africa, Eritrea, Liberia, Mozambique, Nigeria, South Africa, Tanzania
  - 1229 patients (2007-2013)
  - Secure website or mobile phone 13%
  - Response 1 week
- Online archive of tropical skin conditions
- Internet source of educational material for training and updating of medical specialists and health personnel.
- Secure an active channel and platform for dermatological research collaboration

JAAD 2015 Lipoff et al

Africa teledermatology project (ATP)

Table I. Top 5 diagnoses rendered by responding clinicians for age groups and HIV-positive patients*

<18 yo (n = 449)	18-55 yo (n = 671)
1. Atopic dermatitis (8%)	1. Kaposi's sarcoma (5%)
2. Impetigo (5%)	2. Drug reaction (3%)
3. Tinea (5%)	3. Lichen planus (3%)
4. Wart (4%)	4. Wart (3%)
5. Hemangioma (3%)	
>55 yo (n = 109)	**HIV+ (n = 356)**
1. CTCL/MF (6%)	1. Kaposi's sarcoma (9%)
2. Fungal infection (5.5%)	2. Drug reaction (6%)
3. Melanoma (5%)	3. Wart (5%)
5. Lichen planus (3%)	5. Psoriasis (4%)

*Percentages represent proportion of consults from each group with specific diagnosis.

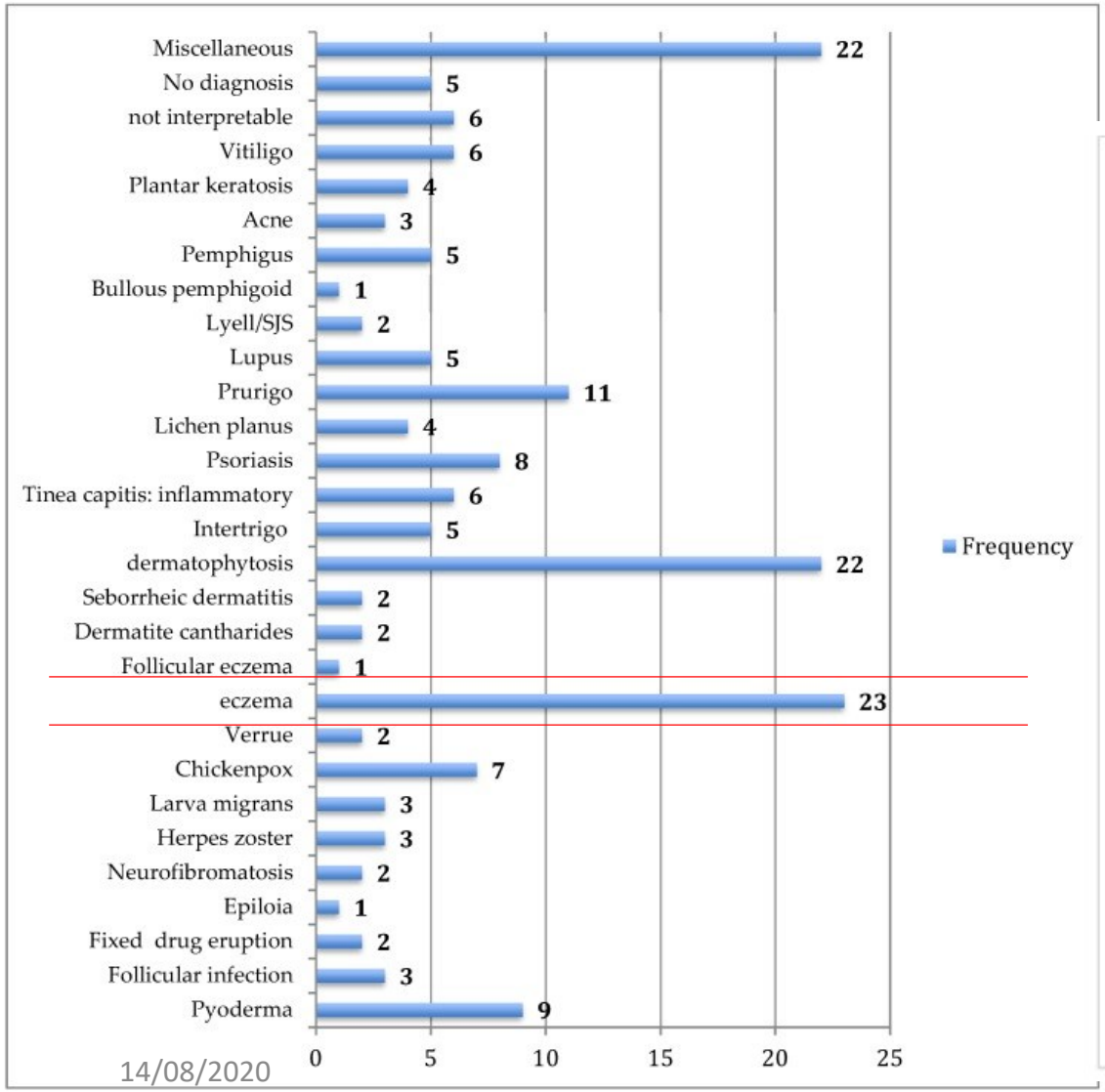
JAAD 2015 Lipoff et al

TelederMali : Pilot project in Mali, 2015-2016

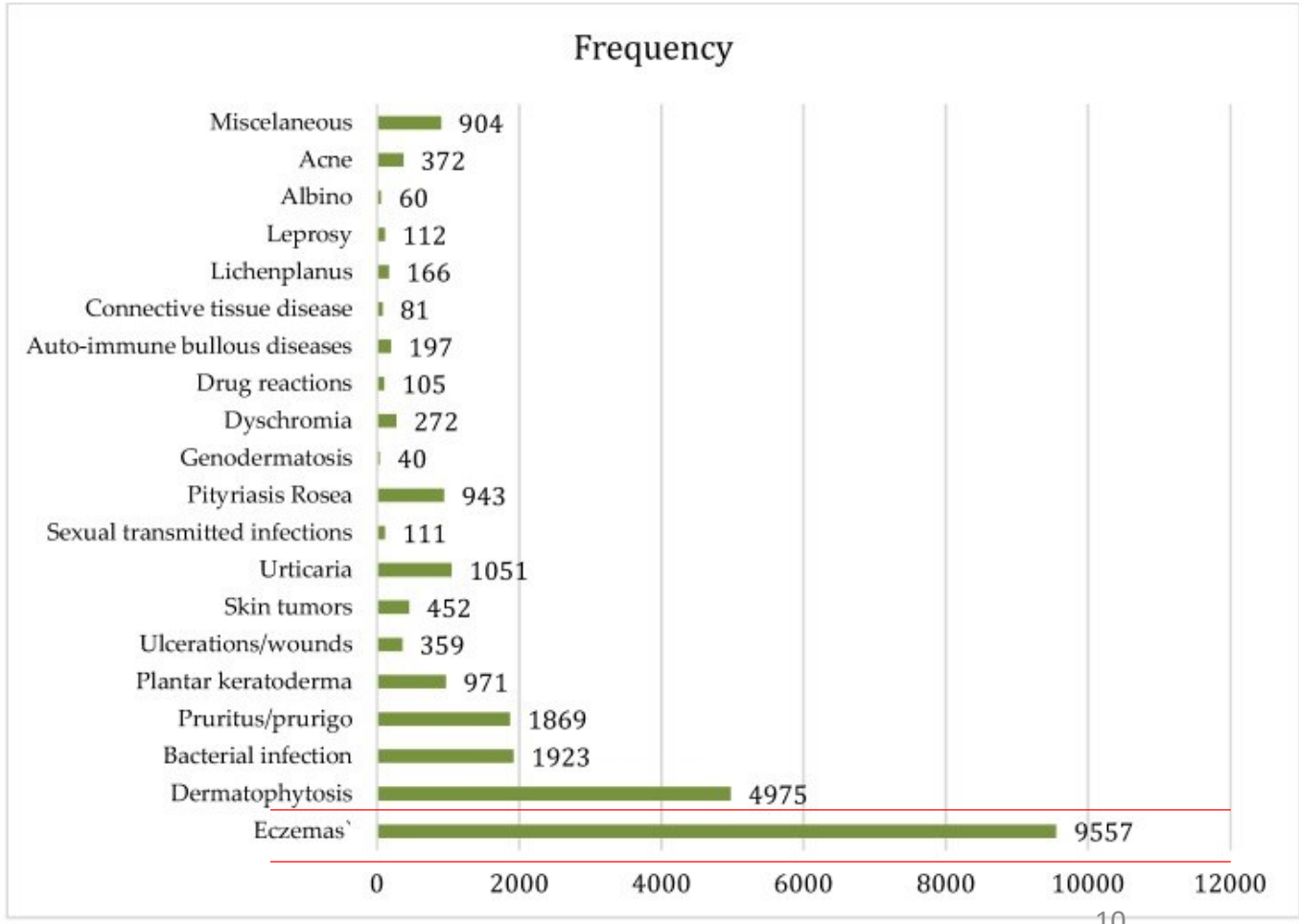
- Subsaharan Africa (West Africa)
- 10 Primary health care centers
- Modality: Web based plateform (Bogou), picture with camera then connection to a computer
- 180 patients
- Response of dermatologists delay 32 h : diagnosis and recommandations
- Eczema: 13 % of all skin diseases

Faye O et al Trop Med Infect Dis. 2018

Frequency skin disease teledermatology



Skin disease in reference center of dermatology 2015



Ghana, Mauritania, South Africa, Tanzania and Togo

- **Web based platform**
  - **Togo**, *Bogou*
  - **Mauritania**, *National program of telemedicine*
  - **South Africa**,
  - **Ghana**, *Mobile platform, ClickDoc and ATP*

- **Teleconferencing/mailing**
  - Tanzania(RDTC) and Switzerland(Zurich)

Teledermatology as a new tool in sub-Saharan Africa: An experience from Tanzania

Peter Schmid-Grendelmeier, MD,[a,b] Elisante John Masenga, MD,[a] Andreas Haeffner, MD, and Günter Burg, MD[b] *Moshi, Tanzania, and Zürich, Switzerland*

Large areas of sub-Saharan Africa suffer a substantial lack of skin care. Hence teledermatology, meaning the online visual exchange of clinical and histologic data, could develop into a powerful medical resource. We report the first established teledermatologic connection in this area: between the Regional Dermatology Training Centre (RDTC) in Moshi, Northern Tanzania, and the Department of Dermatology, University Hospital of Zürich, Switzerland. This report illustrates local difficulties as well as the considerable potential of teledermatology in such a setting. (J Am Acad Dermatol 2000;42:833-5.)

https://www.fondationpierrefabre.org/en/

Osei tutu A. JAAD 2013

AD in Africa, Current difficulties (1/2)

- **Difficulties of diagnosis**
  - Access to dermatologist in primary health care/ distance /lack of dermatologists : 1/ 500,000 to 1 million (ideal ratio of dermatologist 1:30,000*)
  - Difficulty of diagnosis of non dermatologist : delay in diagnosis
  - Allergic test not available
- **Difficulties of acces to treatment**
  - Access to emollients and corticosteroids : quality ? Financial accessibility ? Pharmacy avaibility
  - Not available : calcineurine inhibitors, imunosupressants, biotherapy
  - Compliance : anaphalbetism, incorrect application of the cream (quantity, duration, adverse effects)

***Gaffney R (2015) Global teledermatology**

AD in Africa, Current difficulties (2/2)

- **Difficulties of follow up :**
  - Long term follow up : chronic disease
  - Lost to follow up patient
  - **No therapeutic patient education**
  - **Impact of traditional medicine in chronic dermatosis**
  - Religious/ social mysticism for chronic dermatosis

Geneva Workshop roadmap

- AD
  - One of the most common inflammatory dermatological diseases in primary, secondary and especially tertiary care in SSA
  - Significant emerging public health problem in SSA.
- International health organizations, Foundations, international learned societies (WHO, IFD, ISAD) should encourage and support studies on AD in Africa for better recognition
- Participants agreed
  - difficulties in diagnosis and treatment of AD …..lack of medical infrastructure, in particular, trained primary care workers and certified dermatologists.
  - need to develop telemedicine in order to compensate for the low number and uneven distribution of dermatologists.

DOI: 10.1111/jdv.15972 JEADV

POSITION STATEMENT

Position Statement on Atopic Dermatitis in Sub-Saharan Africa: current status and roadmap

P. Schmid-Grendelmeier,[1] R. Takaoka,[2] K.C. Ahogo,[3] W.A. Belachew,[4] S.J. Brown,[5] J.C. Correia,[6] M. Correia,[7] B. Degboe,[8] V. Dorizy-Vuong,[9,10] O. Faye,[11] L.C. Fuller,[12] K. Grando,[1] C. Hsu,[13] K. Kayitenkore,[14] N. Lunjani,[15] F. Ly,[16] G. Mahamadou,[17,9] R.C.F. Manuel,[18] M. Kebe Dia,[19] E.J. Masenga,[20] C. Muteba Baseke,[21] A.N. Ouedraogo,[22] F. Rapelanoro Rabenja,[23] J. Su,[24] J.N. Teclessou,[25] G. Todd,[26] A. Taïeb[9,10]*

Tele-AD

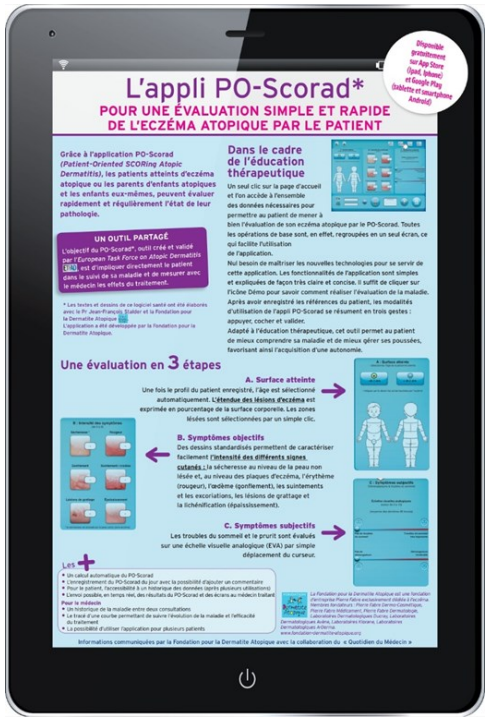
Connecting Derm specialist and primary health workers

- E-learning
- S&F Telederm
- Telemonitoring
- Therapeutic Patients Education

DUD@L

TÉLÉ EXPERTISE BOGOU

réseau RAFT network



You Tube

E-Learning

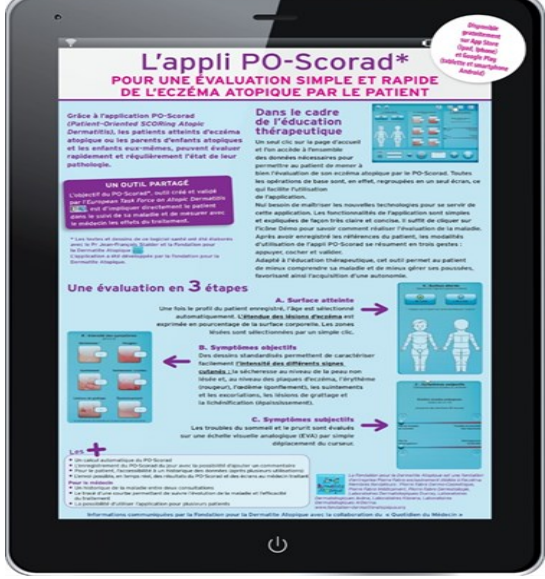
- **Prerequisites: survey on AD in Cameroon* and Togo**
- **Methods:**
  - **Initial and in-service training programme oriented towards AD.**
  - **Describe the diagnostic criteria of the disease, the procedure for using the digital tools of the programme.**
  - **Produce a normative good clinical practice guide.**
  - *Collaboration with cyberderm*
- **Expected outcomes**
  - **Trained health professionals will be able to recognize and manage AD.**

*Kouotou BMC Dermato 2017

Store & Forward Teledermatology

- Method: tele-expertise platform (clinical history + photography)
- Expected results
  - Definition of simple diagnostic criteria adapted to the primary care setting.
  - Epidemiology of AD (morbidity, mortality) and defined severity spectrum.
  - Diagnostic time will be shortened and quality of care increased

Telemonitoring



- **Prerequisites:** training in the use of PO SCORAD (Eczema Foundation)
- **Methods:**
  - Self-assessment of AD under the guidance of professionals in charge of long-term follow-up.
  - Simple cases handled in primary structures and complex cases included in a system of referral and sorting of requests by tele-expertise.
- **Expected results**
  - Better follow-up of AD patients
  - Long journeys avoided

Therapeutic Patient Education

- Prerequisite: development of contents in different languages by local experts (*sensitization messages*)
- Methods:
  - You Tube Channel /field animations,
  - Field visits with mobile teams.
  - SMS phone alerts
- Expected results
  - Improving compliance and quality of life
  - Therapeutic success in patients

Where are we now?

- Writing a comprehensive guide for AD in SSA
- ATOPY TV for TPE
- Bogou in use
- Dudal in use , Collaboration with CYBERDERM (Peter SCHMID)
- PO SCORAD: adaptation for black skin, Online training with Eczema Foundation is developed

Conclusion

- Increase access to quality care services for patients in any situation in which there is a barrier to receiving treatment.

- Project threats:
  - cost of equipment, quality of internet
  - Resources(finance), stakeholders engagement