TELENEUROLOGY IS A VALID TOOL TO REDUCE THE DOUBLE BURDEN OF HIV AND NEUROLOGICAL DISORDERS IN SUBSAHARAN AFRICA

M LEONE[1], FM CORSI[2], C RAZZI[3], G DIDATO[1], F FERRARI[4], M BARTOLO[5]

1 Fondazione IRCSS Istituto Neurologico Carlo Besta - Milano, 2 Neurology and Neurophysiology Department - Azienda Ospedaliera San Camillo Forlanini - Roma, 3 GHT - Health Telemedicine Onlus – Roma, 4 Dipartimento di Scienze Radiologiche - UniversitÃ La Sapienza – Roma, 5 Telemedicine Department - San Giovanni Addolorata Hospital - Roma

Introduction

Burden of neurological diseases is increasing particularly in sub-Saharan Africa (SSA) (1). A main contributor is the high HIV prevalence since HIV increases the risk of neurological diseases (2). There are very few neurologists in SAA and millions of people do not have any access to neurologists (3). Teleneurology brings health care in places with no specialists (4). We have started a teleneurology service in SSA. The results are presented.

Methods

The Global Health Telemedicine program (5) has built 24 centres in 10 african nations connected to european voluntary specialists. The majority of the centres belong to the DREAM (Disease Relief through Excellent and Advanced Means) (6) health centres network in SAA. Educational courses and practical sessions on neurology are offered to clinical officers and doctors. Clinical officers are the main care givers in SAA. At least once a year, a 3-4 weeks period is spent in SSA by one neurologist (ML) for education on the ground. The software can transmit CT, X- ray, echography, ECG, pictures and movies, EEG etc.

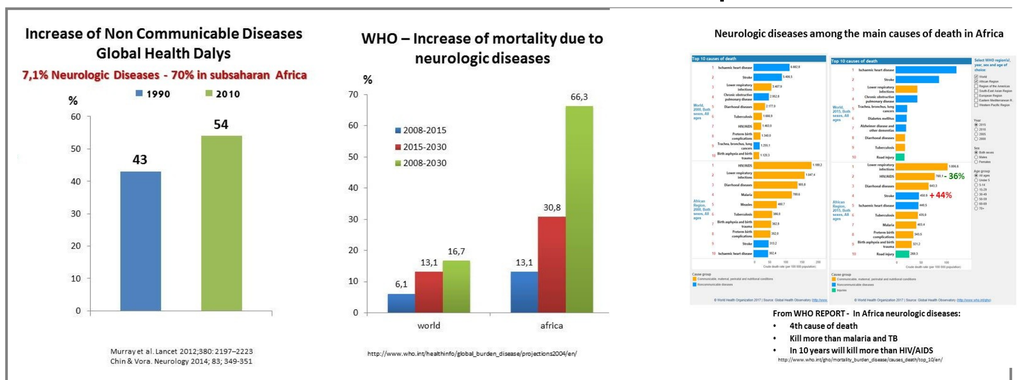
Results

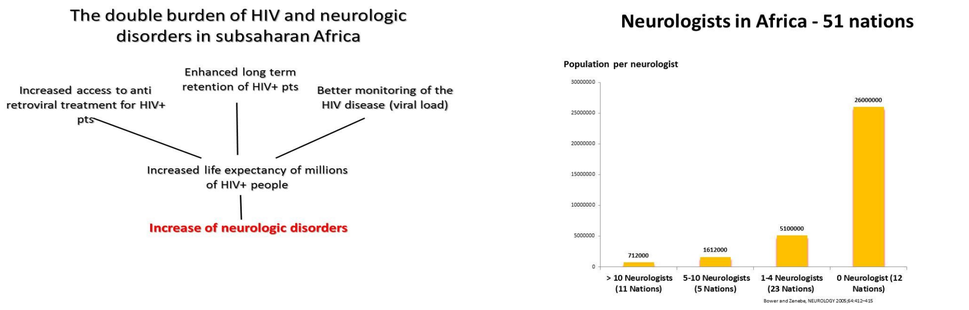
From February 2016 to September 2017, 1643 teleconsultations have been done: 4,2% (N=70) were for neurologists. Characteristics of neurological patients: 42 males, mean age 22,8 years (25 days-66 years), 57% < 18 years old, 37% HIV positive. Most frequent neurological disorders are shown in the figure. In 72% of the cases, opinion from other branches was also requested: cardiology (20%), radiology (18,3%), pediatry (16,7%), internal medicine (15%), orthopedic (10%), infectivology (10%), angiology (10%). Examinations were also sent: CT scan 21, ECG 15; EEG 2, X–rays 9; echography 4.

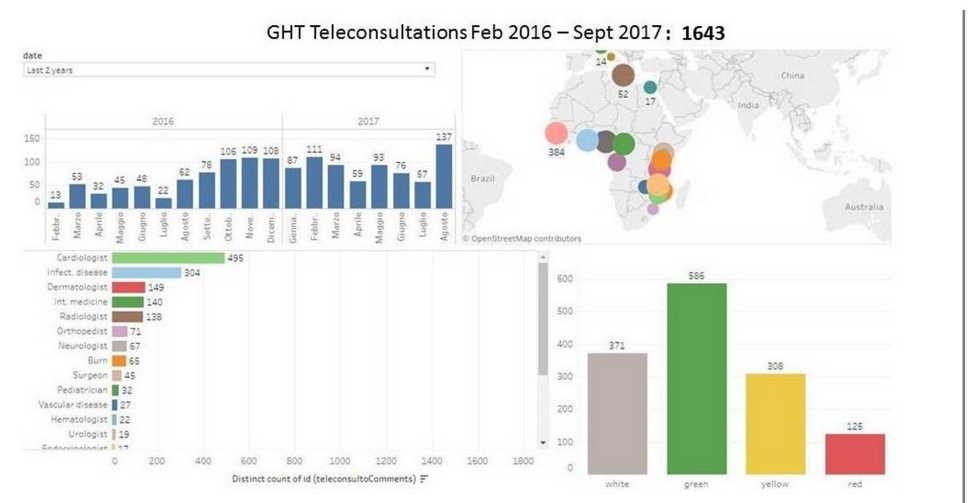
Conclusions

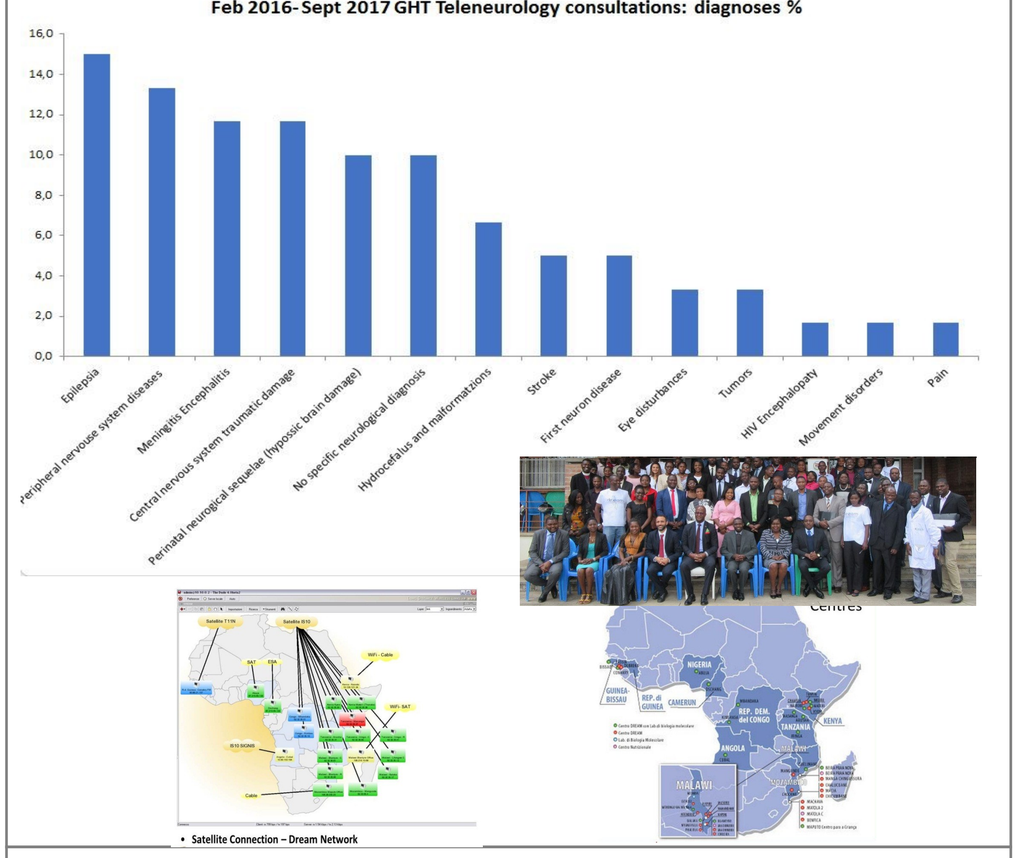
The rapid advancement in telecommunications on the African continent has opened up avenues for improving medical care to underserved populations. Although the greatest burden of neurological disorders is borne by sub-Saharan Africa also because of HIV prevalence, there is a profound paucity of neurologists to serve the population. Telemedicine presents a promising avenue for effective help of local health workers including mobilization and utilization of the few neurologists in Africa.

Teleneurology is feasible in SSA and it presents as a cost-effective promising discipline of neurology in these resource-limited settings (7)









References

1.Chin JH, Vora N. The Global Burden Of Neurologic Diseases. Neurology 2014; 83; 349-351

2.Mateen FJ, Shinohara RT, Carone M, Miller EN, McArthur JC, Jacobson LP, Sacktor N. Multicenter AIDS Cohort Study (MACS) Investigators. Neurologic disorders incidence in HIV + vs HIV - men. Multicenter AIDS Cohort Study, 1996 - 2011. Neurology 2012; 79: 1873-1880

3.Bower and Zenebe. Neurologic services in the nations of Africa Neurology 2005;64:412–415

4.Sarfo FS, Adamu S, Awuah D, Ovbiagele B. Tele-neurology in sub-Saharan Africa: A systematic review of the literature. J Neurol Sci. 2017; 380:196-199

5. http://www.ghtelemedicine.org/site/

6. http://dream.santegidio.org/

7. Mateen et al. International Issues: Teleneurology in humanitarian crises. Neurology 2017; 89: e16–e19