Chapter 6

DREAM Programme:
Use of Telemedicine as a Model to Cooperation with Africa

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ABSTRACT

This chapter is the description of the authors' experience in providing healthcare consultation and support in African countries. The project, named DREAM, was developed to provide support to in fighting pandemic diseases such as HIV using telematics for data gathering and remote consultations.

INTRODUCTION

DREAM (Drug Resource Enhancement against AIDS and Malnutrition) is a programme made from the Community of S.Egidio started in 2002 in Mozambique and now spread in 10 countries of sub-Saharan Africa (Mozambique, Malawi, Tanzania; Kenia, Rep. Guinea; Guinea Bissau, Nigeria, Angola; Cameroon, Congo). It is a holistic programme to fight HIV and Malnutrition. Up today DREAM has 33 centres already operational and 13 molecular biology laboratories that guarantee constant monitoring to DREAM patients. More than 95.000 patients are under assistance and 55.000 of them are in HAART treatment.

BACKGROUND

This pandemic has characteristics that make it unique in its kind and which can be summed up as follows.

The HIV/AIDS infection is mainly concentrated in countries with limited resources, and in particular, in sub-Saharan Africa. It has become the first cause of death here and the new infections per year still outnumber the deaths. In fact, according to the WHO statistics, there are 33 million infected people in the world, around 60% of whom live in sub-Saharan Africa. Every year it is estimated that around 2 million people die from HIV/AIDS, and over 70% of them in sub-Saharan Africa.

No vaccines are available yet, neither preventive nor therapeutic. Nonetheless great progress has been made in the field of antiretroviral drugs, which have been administered in a triple combination since 1996 and have reduced the death rate in the West by 90%.

However, the antiretroviral drugs are not able to eradicate the virus: therefore the patients' health depends on them taking the drugs for their whole life. One can thus understand that the richness and complexity of the clinical records generated and of the history of the patients is unequalled by any other pathology.

Moreover, both the infection and the therapy need to be carefully monitored with a sophisticated diagnostic system organised on four levels: progression of the disease and the patient's clinical condition; his immune status (mainly expressed in terms of his CD4 cell count); the "quality" of the viral infection (viral load and resistance mutations); surveillance for any adverse events and toxicity related to the pharmacological treatment.

Another critical point is that the whole system has to be integrated into the health systems of countries with limited resources and has to take into consideration other widespread conditions in these countries, like for example, malnutrition, the low level of access to health services and the poor level of health education.

One more point is that the poor knowledge about the disease and above all the need to consolidate solutions for several aspects of the public health system (like for example, the prevention of mother-to-child transmission, the knowledge of the best time to start therapy, the control and prevention of co-infections and of opportunistic diseases) mean that the African programmes have to be able to carry out research, in particular operational research. This then means that the data collected have to be available for drawing up reports, but also for data mining, cost/benefit evaluations, and epidemiological analyses in general (Palombi et al., 2012).

Finally DREAM had to deal with another key problem in sub-Saharan Africa, which is the dramatic shortage of qualified health staff, as reported recently by the WHO. In other terms both the clinical centres and the laboratories had to combine adequate apprenticeships with the theoretical training of new biologists, doctors, laboratory technicians and obviously computer experts.

The DREAM Project

Considering the above, the DREAM Project aims to introduce the essential components of an integrated strategy for the prevention and treatment of HIV/AIDS within the framework of national health systems. The project is intended to serve as a model for the wide-ranging scale-up of the response to the epidemic. Its main objective is achieved through the establishment of services providing diagnosis and comprehensive treatment.

The prevention of HIV transmission in the general population and of mother-to-child transmission through Community Care and Home Care services (CCHC) and Mother and Child Prevention and Care (MCPC), respectively, are additional key components of the programme. The Community Care and Home Care services look after the rest of the family, that is the male partners in the first place, and also the children. Mother and Child Prevention and Care is DREAM's approach for achieving results in caring for the mothers and preventing mother-to-child transmission. This link is crucial to ensure the survival of women and good adherence to the treatment programme.

Since adherence to ARVs and treatment follow-up are essential for the effective use of HAART in large-scale public health settings, DREAM provides the treatment package free of charge to all patients. This is a crucial element; for many patients, even the cost of transport may prevent them from adhering to treatment. By eliminating the cost of treatment, high adherence rates have been achieved.

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