



The Challenge of HIV/AIDS: Twenty Years of Struggle Knowledge and Commitment for Action



“The first important factor for an ethically dignified construction, the first important factor for a will for one's own transformation, in order that your presence be more useful in the world and for the world, is in the order of knowledge, of self awareness; before doing, before getting to work, it is in the order of knowledge... You must adhere on the strenght of a force of attraction.... In our education we need to discover how to perceive, how to bring to the fore and affirm the suggestiveness... We take a proposal only if it is suggestive.”

***Mons. Luigi Giussani “The miracle of a change”, 1998,
Fraternity of Communion and Liberation.***



LIST OF CONTENTS

AVSI: WHO WE ARE	3
THE FIVE BASIC POINTS OF THE AVSI METHOD	4
AVSI AT THE UN SPECIAL SESSION ON HIV/AIDS	5
THE CHALLENGE OF HIV/AIDS IN UGANDA	7
GROUND ZERO: AIDS RESEARCH IN AFRICA	9
Proceedings of the round table: “Has the monster been caged? Twenty years of struggle against HIV/AIDS” Meeting of Friendship among Peoples, XXII Edition, Rimini 2001.	
THE ENCOUNTER WITH MY AIDS PATIENTS <i>Rose Busingye</i>	12
THE GLOBAL THREAT OF HIV/AIDS: HOW CAN SCIENCE FACE THE CHALLENGE? <i>Jay A. Levi</i>	18
“SHOTS IN DARK” THE WAYWARD SEARCH FOR AN AIDS VACCINE <i>Jon Cohen</i>	26
HIV/AIDS EPIDEMIC: THE ITALIAN PERSPECTIVE <i>Donato Greco</i>	30
AFRICAN ENIGMA: KEY PLAYER IN HUMAN IMMUNODEFICIENCY VIRUS PATHOGENESIS IN DEVELOPING COUNTRIES? <i>Mario Clerici</i>	34
SHARING THE NEED TO SHARE THE VERY MEANING OF LIFE <i>Pier Alberto Bertazzi</i>	36



WHO WE ARE

Associazione Volontari per il Servizio Internazionale (The Association of Volunteers in International Service) is an international not-for-profit, non-governmental organisation (NGO) founded in Italy in 1972.

AVSI promotes cultural, social and economic development, according to Catholic Social Teaching, especially among the most disadvantaged in developing nations and countries in transition.

AVSI carries out its mission through the planning and implementation of medium and long-term sustainable projects and emergency relief operations in partnership with local associations, institutions, international agencies and governments.

At present, **AVSI** is directly involved in 32 countries of Africa, Latin America, Eastern Europe and Middle East with more than 90 long-term projects benefiting people in various social sectors.

Some 120 **AVSI** qualified staff are directly involved in long-term field assignments with hundreds of locally employed people and are supported by dozens of academicians and senior staff.

Financial support is secured through grants and donations of private institutions, associations and individuals, which thereby practice and invest in global solidarity. These funds complement international and national development donors, UN agencies and the European Union contributions.

AVSI's financial statements are certified by one of the leading global accounting firm.

AVSI is registered as a PVO with USAID and holds the General Consultative status with the UN Economic and Social Council (ECOSOC) in New York, the UN Industrial Development Organisation (UNIDO) in Vienna and is associated with the UN Department of Public Information (DPI) in New York. **AVSI** is also recognised as an NGO for international co-operation by the Italian Government and the European Union.

AVSI acts also as a global network, linking 24 associated NGOs, most of which are based in non-western countries and is also affiliated with CdO (Compagnia delle Opere), an Italian based, not-for-profit association of over 15,000 associations and businesses.

AVSI's 24 NGO members act as an international network, sharing the same principles and approach as **AVSI**. The operative co-ordination of the network is assured by quarterly meetings designed to integrate policies and strategies and to promote common programs.



THE FIVE BASIC POINTS OF THE AVSI METHOD

1. Centrality of person

The person is the centre of any development program, the purpose of every project. This means first of all sharing needs to share the very meaning of life and to be moved by man's destiny; failing this, the answer to needs becomes only a self-rewarding good action or political strategy. However, all of this remains an abstract concept, unless the person is considered within the context of his/her primary and secondary relationships, i.e. family, local community, society.

2. Starting from the positive

Every person and every community represent a potential resource, regardless of their vulnerability. This means valuing and strengthening all that has been made by people, their history, their existing relationships, in other words the social context and experiences representing their heritage. This basic operational principle originates from the positive approach to reality and helps the person to understand his/her own value and dignity and to take over responsibilities.

3. Doing with

A project dropped down from the top is either violent, because not shared, or not effective, because assistance-oriented. AVSI's approach to projects' design and implementation is doing with people, i.e. starting from the relationship with the people the project is directed to, and building with them on the basis of their development path.

4. Development of civil society and subsidiarity

To foster and enhance the possibilities of aggregation that is to acknowledge, value and promote the establishment of intermediate social groups and of a responsible and partaking social context. The right of every person to free association and also to economic enterprise becomes, through experience, a powerful changing agent.

5. Partnership

Partnership originates from the application of the principle of subsidiarity. Thus, starting from an existing subject, partnership implies the capacity of identifying and involving a growing numbers of actors - local administrations, social groups, international bodies - each with different roles and functions, and all equally important, to further the goals of development.



AVSI AT THE UN SPECIAL SESSION ON HIV/AIDS

A delegation from AVSI took part in the United Nations Special Session on HIV/AIDS on 25-27 June 2001 in New York.

On this occasion AVSI presented a Position Paper focused on the struggle against HIV/AIDS in Sub-Saharan Africa.

1. In the last 5 years in western countries the use of antiretroviral drugs has effected a leap in the quality of treatment of HIV/AIDS. These agents have increased both the survival rate and the quality of life for a majority of patients. The realization that these drugs are unfortunately inaccessible to the sick in those areas of the world where the virus has seen the most rapid growth has alerted the international community to the problem of the costs of these drugs, especially for low income and developing countries.
2. Yet the accessibility and feasibility of the current therapy cannot merely be reduced to the single issue of price; instead it needs to be considered within the context of each country. The current treatments are complex, require complete adherence and, at this point, cannot be discontinued. The experience of those people who have been working in African nations has shown how extremely complicated it can be, for example, to complete even an anti-tuberculosis therapy, certainly less demanding in terms of time and monitoring requirements than HIV/AIDS.
3. We would like to express that which comes from our experience as an international development NGO, involved every day in the field, caring for HIV/AIDS patients in some African countries, (particularly in Uganda, one of the few where HIV/AIDS showed a reversing trend) as follows:
 - a. The sought-after availability and accessibility to the drugs should be accompanied by the strengthening of the overall health care system.
 - b. That the cornerstone of the HIV/AIDS challenge is still prevention.
 - c. That both prevention and treatment cannot simply be made up of techniques, tools or availability of funds; rather they should always rely on the human factor and be situated within a vision of the human being as a whole.In this regard, we find an excerpt of a speech by Yoveri Museveni, the President of Uganda, at the 1992 AIDS Conference in Florence, Italy still applicable, because it points out the undeniable factors in the fight against this disease in the context in which it developed. "...I have been emphasizing a return to our time-tested cultural practices which emphasized fidelity and condemnation of pre-marital or extra-marital sex. I believe that the best response to the threat posed by



AIDS and other Sexually Transmitted Diseases is to reaffirm publicly and forthrightly the reverence and respect every person owes to his or her neighbor. Young people must be taught the virtues of abstinence, self control and postponement of pleasure and sometimes sacrifice. Just as we were offered the magic bullet of penicillin from the early 40s, our public health figures are now offering us the condom and “safe sex”. In countries like ours, where a mother often has to walk 20 miles to get an aspirin for her sick child or 5 miles to get any water at all, the practical questions of getting a constant supply of condoms or using them properly may never be resolved. Meanwhile we are told that only a thin piece of rubber stands between us and the death of a continent. I feel condoms have a role to play as a means of contraception especially in couples who are HIV positive, but condoms cannot be the main means of stemming the tide of AIDS...”.

- d.** But even a behavior change does not merely consist of a series of rules to which one ascribes, but rather has to be based on an educational exercise and continuous effort that enables the awareness of and a deepening of the vision of the human being, a vision of both the origin and destiny of the person.

- 4.** Within the perspective cited above, two main tasks for a government or a public administration become apparent and cannot be set aside:
 - a.** Establish means of providing support to those groups and expressions of civil society that dedicate themselves to this educative and therapeutic task, while maintaining a respect for the different traditional cultures present in every individual country.
 - b.** Reinforce and provide for a sustained socio-economic development and a real fight against poverty, the true means of creating a conducive and stable environment for the reduction of HIV/AIDS and for the effective treatment of the disease.



THE CHALLENGE OF HIV/AIDS IN UGANDA

Centrality of the person

In the second half of the '80s everybody experienced and realised the threat of AIDS all over the world. In the countries where AVSI was present, our humanitarian workers were challenged by death, sickness and grief at the workplace and in the daily experience, loss of relatives and friends, orphaned children and untold sufferings. In Uganda, together with colleagues and friends, some of our staff contributed to the birth of initiatives aimed at mitigating the effects of the epidemic, counselling, family support, care for the sick, home visiting. So local NGOs such as Meeting Point in Kitgum, Kampala and Hoima were also born.

In Kampala it was natural to collaborate with the live and brave initial groups caring for people with HIV/AIDS. Therefore we shared the first initiatives such as the World Aids Day Marches and Candle Light Memorials with the founder of The Aids Support Organisation (TASO), Ms. Noelina Kaleeba. With Sister Miriam Duggan we collaborated in starting the Kamwokya Community Based AIDS Support Programme and we learnt how to deal with AIDS in the urban settings. With funds from the Italian Episcopal Conference we supported the Home Care Unit of Nsambya hospital.

Since the 1990s, AVSI's Distant Support Program sponsors hundreds of children in Uganda, Rwanda, Kenya, Nigeria, Romania and many other countries directly affected by HIV/AIDS either as orphans or as young patients.

Home Based Care

Home Based Care is not a simplistic delivery scheme where goods are given to the disadvantaged person, but a holistic approach. At the centre of the stage is not the loaf of bread: it is the person. The sick person is therefore encountered as a friend and is seen in his/her completeness. Home Based Care provides the patient with material help, counselling, spiritual and psychosocial support.

Currently, in Northern Uganda, more than 1,000 patients living with HIV/AIDS are benefiting from such services in Kitgum and Pader. About 828 AIDS patients are supported by Meeting Point and their network of volunteers in Kitgum, while circa 260 are clients to the AIDS clinic of St. Joseph's Hospital in Kitgum. Kalongo Hospital provides assistance to more than 120 patients with HIV/AIDS. In Kampala about 900 PLWHAs and their families are supported through a partnership amongst local NGOs and CBOs, WFP, WHO and AVSI.

Support to Home Based Care has mainly consisted in the partnership with the local NGO Meeting Point, to which AVSI has channelled both financial and human resources.



Prevention of Mother To Child Transmission (PMTCT) of HIV

AVSI has started implementing PMTCT in Hoima, Uganda, in collaboration with the District Health Authorities and the Ministry of Health, with funds from the WHO/Italian initiative to fight HIV/AIDS in Africa and from the Elizabeth Glaser Paediatric Foundation.

The first steps for PMTCT implementation have also been undertaken in Kitgum and Pader hospitals in Northern Uganda.

PMTCT focus on the person as the centre of any curative strategy. It is estimated that less than one fifth of people infected with HIV know their serostatus. Women accept the HIV test and to be enrolled on PMTCT if tested positive, when they understand that they will be cared for not only from the medical point of view, but also as persons.

PMTCT effectively and safely challenges negative approaches to maternity in-patients with HIV AIDS. In fact, AVSI's approach to PMTCT is defined in first place by the intention to safeguard the right to procreation and birth and by a positive approach to the family, involving both the mother and the husband in counselling and follow up.

The goal of increasing chances to deliver HIV free babies is pursued through a companionship to the mothers and a follow-up of new-borns for 18 months. Counselling is also provided on correct feeding, and infant formula milk is handed out to non-breast-feeding mothers. Whenever PMTCT will not succeed, HIV positive babies will also be followed-up. It is crucial to build up trust and reliance on the side of the mothers who accept to be enrolled when they realise that what is offered to them is more than health care. They feel human support directed to their whole person and to the child they are bearing, which will last in time, at least for the 18 months that it takes to confirm the child is HIV negative. This involves an educational challenge.



GROUND ZERO: AIDS RESEARCH IN AFRICA

Jon Cohen

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Scientists have stepped up efforts against HIV at the epicenter of the epidemic, as the virus continues to exact a growing toll in human lives

On a clear and cheery rain-washed March morning in Kampala, Uganda, Rose Busingye, an AIDS social worker and nurse, leads four visiting Italian AIDS researchers on a dark and depressing tour that begins at an orphanage. "They have no one," Busingye explains as she walks through the well-kept house that serves as the new home for a dozen children whose parents recently died from AIDS. She introduces a boy whose mother, a prostitute, hanged herself when she learned that her blood test for HIV was positive. A girl walks by whom Busingye had found wrapped in her dead mother's arms. Busingye points to siblings the orphanage found eating from a garbage pile.

The tour proceeds to Namuongo, a nearby village, where Meeting Point, the group Busingye works with, provides care and support for several people near death from AIDS. The researchers walk through fields of sugarcane, jackfruit, and yams, arriving at a cinderblock home with a corrugated tin roof. Inside, a 36-year-old woman, who has tuberculosis and the disorientation typical of AIDS dementia, is bedridden in a dark, two-room space she shares with her brother, his wife, and four children. She has been in this bed, a thin mattress on the floor, for 3 weeks now. "I'm not OK," says the woman, who has a large red Bible by her side.

The last stop on the 3-hour tour is Kireka, a poor village that abuts a rock quarry. Packs of children roam the small slum, which has rows of huts made from mud, sticks, and straw. Busingye says 40 of these children have lost both parents—either because of AIDS or the civil wars here and in neighboring Rwanda—and now are cared for by extended family. One orphan with withered limbs, who himself has late-stage AIDS and is wearing nothing but a long-sleeved pink turtleneck, takes the hand of an Italian AIDS researcher and walks with her. Meeting Point helps 120 AIDS patients in Kireka, including a 32-year-old mother of two who lies on the ground in the village's marketplace selling vegetables. Her husband died from AIDS in December 1998. "He had another woman," she explains. Now she has AIDS, as does her 15-year-old son.



avsi the association of volunteers in international service



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THE ENCOUNTER WITH MY AIDS PATIENTS

Rose Busingye

Meeting Point, Kampala, Uganda

The HIV/AIDS epidemic became a monster which has spread so much over the last twenty years beyond geographical, political, social, economic or religious barriers and has brought Africa down on its knees.

Families, tribes and traditions are torn apart. Hopelessness, confusion, fear and suspicion spread between husbands and wives, men and women. War breaks out within families and tribes. This is why this disease is without remedies and man is left without any defences and powerless before it. Yet, AIDS strikes society as a whole and the world as a whole, and we are supposed to look reality in the face.

But can the fact that young and elderly people, mothers and children come to me with the AIDS symptoms and then die before my eyes leave me hopeless?

The search for a meaning

The HIV/AIDS problem is similar to any other problem in life: I feel urged and provoked to find out the true dignity of human life and of love. If we are sincere, if we are truly human, we must ask ourselves: what is it all about? What is the meaning of life, of love, of sex, of death? No one can believe this is of no concern to him: is all that truly meant for us? Yes, that is truly meant for us, for the meaning of human condition, to find the energy needed to face reality in a reasonable manner.

Without such a consciousness we cannot help ourselves, not to mention the others. And yet we keep complaining and accusing the others, or conversely we barely offer compassion and deceive them, provided that an answer whatsoever is given.

In the eyes of the world, man is apparently nothing. Instead, the world is valuable because man is in it, because his life is a cry for value. Man is a value to which all other values must be referred.

It all must be in function of the single person: I want to shout this out to the whole world, to all the people who work with man. In today's world, value consists in the proper use of adequate techniques, so man is just a thing inside all the mechanisms used. Technique cannot replace the person or his dignity.

We have decided to have Matisse's Icarus as the logo of our Meeting Point centres: man who appears to be nothing before disease and death.

A red spot is there in the painting representing man's heart. Man's heart is a cry for meaning, a cry for happiness. Man, who appears to be nothing, has a heart which is a cry for fullness, for total satisfaction, for perfection. It is a cry for the meaning of life. Even when confronted with disease, suffering and death man yearns for something



giving all that a meaning. Unhappiness is when man gives up searching for a meaning and thinks happiness is impossible.

I have made the choice of working with the poor and the sick, in order not to leave them lonely with their disease and death, but rather to help them discover – and actually discover together – the meaning of suffering and death.

The more the number of residents in Kampala increases, the more the disease is spread. This causes great confusion of sentiments and judgements, among which fear and shame are prevailing. For this reason so many, even among the relatives, abandon their own sick and orphans.

It is fashionable now in Uganda to draw projects for human rights, for women's rights, for children and against AIDS, but all concerns are addressed to the project and not the person.

It is so easy to get confused and replace man with what we can or want to do for him, that man is just reduced to a project or to an ability of ours. To give an example, if someone comes to me and they have AIDS or a headache, I may simply face that AIDS or headache and not a man with his disease. We do not cure a piece of a man, we cure man in his entirety. The world today tends to separate man's life into a number of segments and fragments. The image and perception produced by this world is that of a person as an aggregate of segments and fragments, and every fragment is ruled by its own law. There is a law for love, one for affective relationships, one for work and one for entertainment. This all leads to so much confusion and contradiction. A human being is merely reduced to what we know of him and we can do for him.

We must stay vigilant, and not only because of AIDS. The fight of our life and our job is to raise such responsibility. It is a struggle against all that contrasts with man's value and dignity. Our work consists in favouring a stable consistency of human personality. It is quite obvious to love our life. Instead, what we usually love is just an image of ourselves, especially dictated by our own instincts.

If we stay vigilant, our life will be an adventure in search of its meaning and value. The people who draw projects and come to visit our centres say that everything is just beautiful, wonderful, but does not fit into the usual schemes, that what we do is not visible or that they just know it all. Some other times they say to me: we just ask you to talk about AIDS or HIV, and you talk about life. We know all that, already. But once you begin to make out some meaning for your life, it is as if a light came to illuminate it all. Then you begin to find out the truth for your life and a new attraction, affection and tenderness for your own life and for the others' life.

Belonging to someone

Until some time ago, in Uganda everyone knew they belonged in a clan or tribe or family. Now families are torn apart because of AIDS, war, divorce and other forms of conflict. So tribes no longer look after their common interest. By tradition, women



and children once used to belong to the whole tribe, a child did not only belong to his father and mother, but was a richness for the whole tribe. An individual had a consistency and a dignity since he knew he belonged to someone, to be someone's. Now men, women, children are left without any defences or values, they do not feel like living and have no expectations. They are melancholic as if their own life had no meaning, because they have lost their point of reference.

I recall a woman of forty-five. She had lost her husband to AIDS but did not know. When she found it out, she intended to commit suicide. She came to me and told me: - I have lost everything, the place and the relationship where I felt well. Now I do not know who I have to live for". And she was there to ask me for medicines to die with. I put her off over and over again, then once I took her to one of our centres. In our centres music and dancing are used. When you are depressed you cannot sing, cannot even dance, so different musics of different tribes are used. When she got there, she found the others who were singing and dancing, and someone played some music of her tribe in the wrong way. So she stood up and said: - No way! That is not the way to play it. This music is to be played like this -. The others danced her dance and she got involved in it by correcting those who danced it badly.

I recall a young boy whose mother was dead. Once he did not want to talk to me, he would not talk to anyone. One year later, he came next to me and said to me: - I used to be well with my Mum, and now she is not there. I do not know why you are telling me to take medicines or go to hospital: what do I have to live for? Why do I have to live? It is as if I had lost myself.- Many people lose any yearning for working and going on living, because they no longer know that their life is valuable. Why should one live, have children, have a husband or a wife?

When we lose the value of ourselves then the value and meaning of all other things disappears, too. We then treat ourselves and others as things, as tools. When these people lose that point that used to provide their life with a meaning, be they children or grown-ups, they no longer know what to do and cease to live. Their own 'I' and personality come to a crisis and you especially realize that in children. They stop talking, refuse food, no longer play with others and, when talking, make things up.

I met an Italian man in Varese hospital, he had AIDS. He would not talk and doctors did not know what to do to him. His body had sores all over. All the doctors who showed up then signed a form stating that he was in a coma. One day I went to him. There was some ointment on his bedside table. I got it and began to smear it over his sores. After a couple of days, when I got back to him to give him a wash, he asked me: - Who are you? - I replied: - So you can talk! - and he replied back to me: - Yes, I do. To doctors, this case of mine is a special case, they are all so curious about my disease. I feel myself a pack of diseases, a pack of problems, but who am I? They come to me because they are so concerned with my disease, but they act as if I were not there -. Once doctors went to him with a psychologist, in order to investigate whether he suffered from psychological disorders. I followed the doctors who were



on their round of visits, I waved at him and said - Hi, Giuseppe! - and he replied - Oh! Hi, Rose! -. And the doctors: - So you do talk! -. The psychologist was terribly angry at him and said he had just wasted a lot of time on him, and now he was there talking to a little Negro woman! He replied: - She is a friend of mine -.

The work we do is not replacing their relatives, as they are well aware that we cannot substitute for their husbands, or wives or mothers. Our work is a relation through which they can discover they are someone, they can recognize their value and dignity. You cannot be someone outside a relationship. You cannot have a clue about dignity and being someone if it is not within the belonging to someone. My master, Father Luigi Giussani, has taught me that man is an originally belonging creature.

For sick people, whose weakness is so evident – they cannot stand on their own feet – it is much easier to comprehend man's value. Man is defined by something greater than our own misery. Life is an adventure. While working with these patients and their children, I have come to realize that man is so complex, he is a mix of commotion, anger, wrath and tenderness that he is unique among all natural phenomena. Yet, by staying together we can remind each other of the value of our own person and of the responsibility we bear, as we are endowed with a responsibility that nobody else in this world has.

So, what are projects for? What is their purpose? Why do we hand out medicines, food, money, and goods? They are all tools used to say that those people have a great value, the greatest value in the world, and that they are responsible for that themselves. This is not a collective responsibility, it is a responsibility which is given for every single person, otherwise you will find no relief in that. For this reason we need responsible people to look up at. If you are not a someone, you cannot be responsible, you cannot see the others' value, and all that you know or the scientific measures you adopt will bring about no change in your habits and behaviours. We feel void of all energy and without an adequate reason to change our lives, nor can we change merely out of fear of being infected by AIDS.

A sense of responsibility toward something greater

There has been so much publicity in Uganda about AIDS: love but be careful. I cannot resort to that slogan connected with fear. Fear is not a human being's first natural sentiment. A person's first sentiment is attraction. Fear comes out later on, when you sense that you are risking to lose that attraction. Above all is the attachment to Being, to life. Belonging to that Being makes fear fade away. My master has helped me comprehend that newness in the world happens if man belongs. Because everything changes in belonging and, out of that, a new civilization and society are born.

The reasons I have are born of the wonder for the presence of a person who has attracted me, and so research comes out. It is wonderful being loved, but I want this to be forever. I want love to be forever, not just to eliminate my loneliness or to



satisfy my instincts or claims. This person does have a value, so I cannot misuse him. My master used to say that nothing is sweeter for a person than being possessed with an original dependence, which is being loved. These days, the problem is that we do not even love our own life, we are barely attached to our opinions and instincts, which do not last long and leave us sad. We need the courage to support what we love most. But what do we love? What is our hope? It is as if our hope, our lives, were not safeguarded. What depends on my personality must sometimes be so strong to conquer the mentality which is dominating today. If my life, my job, my loving, my approach to reality, is dependent upon what I believe in, then my life will be safeguarded. Condoms and fear are negative approaches, they envisage no solution. In front of the challenge of the epidemic, if we do not look at each other as men, as human beings, we will end up using each other as things and according to our own interests, so we will not be satisfied and will get violent. Why then should we draw back from infecting others? Why should condoms be used? And who is that man or woman I am going with, and who am I? A reality of duties has extremely fragile limitations, so that when convenience is no longer perceived, even the greatest consciousness of duty falls apart.

Many AIDS-sick people who are with us live longer. Many also come to me and ask for special medicines, since they believe I have some. Some of the sick even find the courage to work with us and help others live. If we are aware of what we are, we could also help others become that aware themselves. It is not generosity that sets us in motion. Generosity does not last long. It is a sense of responsibility toward something greater. We do projects like anybody else, we make plans like anybody else, but the object of our work is man and his value.



Meeting point Kampala, Uganda





THE GLOBAL THREAT OF HIV/AIDS: HOW CAN SCIENCE FACE THE CHALLENGE?

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Why is HIV such a difficult virus to control?

The world has faced many epidemics including bubonic plague, smallpox, tuberculosis, syphilis, influenza and poliomyelitis. We now face what could be the greatest public health challenge in human history: HIV/AIDS. How can this virus be so pathogenic to human populations? Several characteristics distinguish the human immunodeficiency virus (HIV) from other epidemic pathogens:

1. While many viruses can affect the immune system (e.g. measles), HIV seems to attack one of the most important regulators of the immune system: the CD4 lymphocyte. Thus, the disorganization of the immune system can be extensive.
2. HIV, when it infects a cell, makes a DNA copy of its RNA genome (through the enzyme reverse transcriptase) and becomes part of the chromosome of the cell. And cells in many different tissues can be infected by the virus. Thus, HIV can establish a reservoir of infection in which the infected cell can be a constant producer of up to 1000 particles of HIV each day.
3. HIV infection becomes chronic and may not indicate any sign of disease for up to 10 years after the infection.
4. HIV can frequently change or modulate itself within the host and escape the immune system.
5. HIV can recruit other cells into the infection either by cell to cell contact or by infectious free virus circulating in body fluids, particularly blood and genital secretions.

The worldwide spread of HIV/AIDS

By the end of year 2000, close to 60 million adults and children had been infected with HIV/AIDS and 22 million of these people had died from AIDS. In the year 2000 alone, over 5 million new infections by HIV occurred with 3 million deaths. Essentially, if one drew a line across the hemispheres of the globe, the greatest extent of HIV infection and AIDS is found in the southern portions of the world (Figure 1).

Sub-Saharan Africa by the end of 2000 had over 25 million cases of HIV/AIDS with South and Southeast Asia next with close to 6 million. In North America, there are nearly 1 million people infected and the virus is spreading rapidly through East Asia



and the Pacific (Figure 1). Similarly, when one examines the number of adults and children infected with HIV last year (Figure 2) the greatest number was in the Southern Hemisphere. Nevertheless, in North America with up to 45,000 new cases, 1-2 new infections occurred every 15 minutes.

The highest prevalence of HIV/AIDS by the year 2000 was in India where close to 5 million individuals have been infected in that highly populated country. South Africa has 10% of its population infected with 4.2 million people affected. Ethiopia is next with over 4 million infected people. Most of Sub-Saharan Africa have over a million people infected. As noted above, the United States, Thailand and China have from 600,000 to close to a million people infected.

The extent of this infection in Africa is evident from the lifetime risk of dying from AIDS for a 15-year-old boy. In Botswana where up to 37% of adults (15 years of age and older) are infected, the risk of dying of AIDS is close to 100%. Other countries with a high-risk of AIDS for young adults include Zimbabwe, South Africa, and Zambia. With this large number of infections and deaths, wood for coffins is becoming scarce in Southern Africa where fields are covered with graves of young children and adults. Concomitant with the death of adults is the increasing prevalence of orphans, which has reached 13 million children thus far.

Global infection summary

Up to the year 2000, 60 million people have been infected with HIV and 6 million were infected this past year. A person becomes infected every 6 seconds and a person dies every 9 seconds. A child becomes an orphan every 14 seconds. AIDS for the last 3 years has become the leading infectious disease killer in the world and is the fourth leading cause of death worldwide following heart disease and lower respiratory diseases. This large number of subjects dying from AIDS has completely changed the demographics of bed occupancy in hospitals. Whereas 10 years ago, less than 10% of hospital beds had AIDS patients, the number now shows at least 50% and in some cases 75% of hospital wards are filled with HIV-infected people in countries in Southern Africa and in India. The tragedy is finding so many sick people in these countries unable to have help within a hospital setting.

The economic burden of HIV/AIDS

Because HIV/AIDS infects so many young adults, it affects the laboring class, the future leaders of countries and those who will form the infrastructure of nations. Increased labor costs in Kenya for example were due not only to absenteeism because of AIDS or HIV infection, but also to the loss of productivity after training, funeral attendance, and the labor turnover. It is said in some parts of Africa, three people need to be trained for one position in order to have someone who will complete the training for the job.

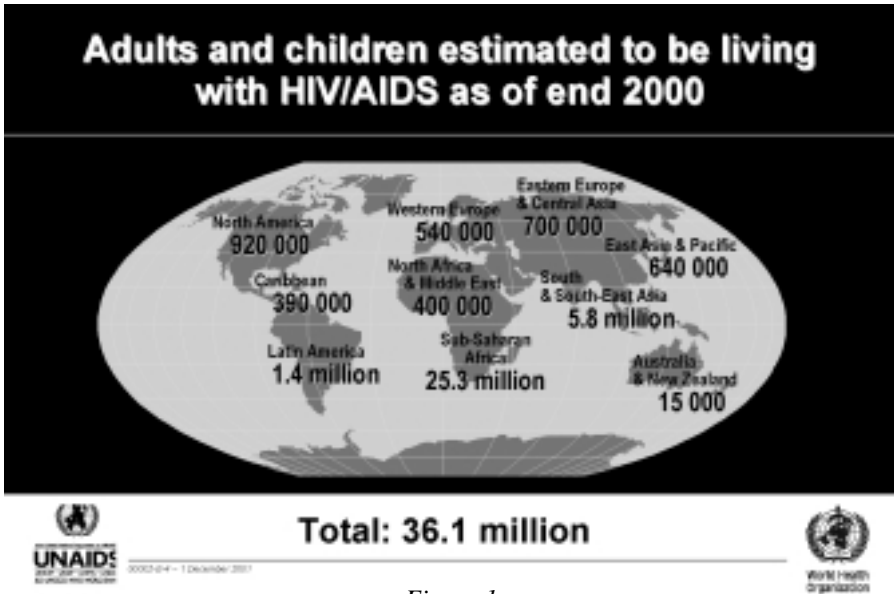


Figure 1

This reduction in labor personnel affects agriculture production as well. In Zimbabwe for example, the output of corn and vegetables can be reduced by up to 60%. Thus, not only is the labor force itself affected by HIV/AIDS but also the products of this labor such as agricultural goods and food are decreased. Sickness, famine and poverty all combine to increase the economic and social impact of this HIV/AIDS epidemic.

Government expenditures for health

While the United States provides about \$4000 in health care for every man, woman, and child, most African countries, have less than \$100 a person for health needs. In fact, in some nations less than \$10 is available. Therefore, it is not difficult to understand why treatment for even opportunistic infections (e.g. tuberculosis) can be difficult in the face of the HIV/AIDS epidemic. Certainly the high cost of anti-HIV drugs could not be afforded.

One valuable insight into the economic burden on a country is life expectancy. Examining this parameter for 5 countries in Africa, indicates the following: that the investment of resources to raise the life expectancy, in some cases, to up to 60 years of age, was rapidly compromised in a short period of time by HIV infection. Life expectancy was brought back to where it was 40 years ago - essentially destroying the economic investment of 40 years.

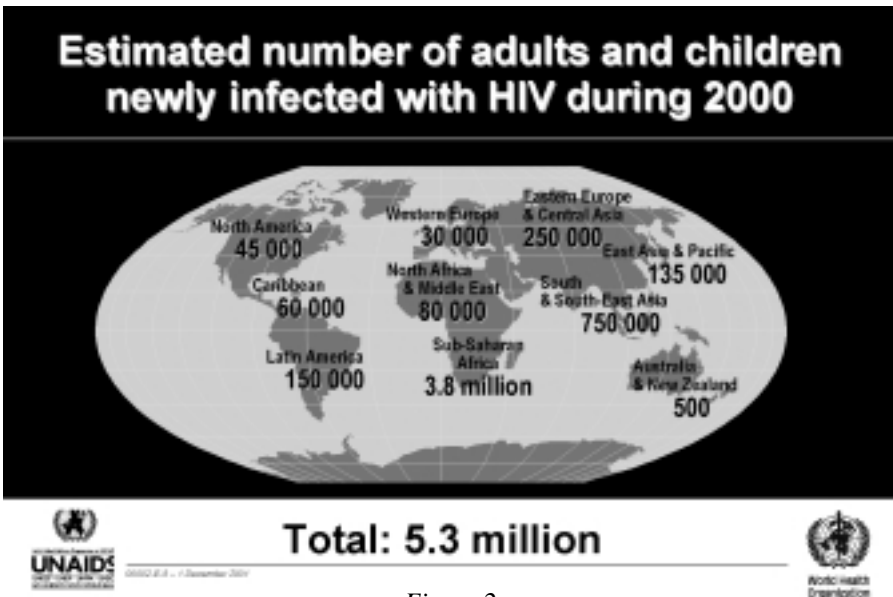


Figure 2

Biologic causes for the spread of HIV/AIDS

The mechanism by which HIV infects a cell was noted above. Why it is so effective can be summarized as follows:

1. the agent is able to spread easily because infected individuals can remain healthy for many years - an average of 10 years;
2. the virus can be transmitted by an infected cell found in body fluids and particularly seminal and vaginal fluids;
3. the virus is spread by sexual transmission and we have not yet controlled any sexually transmitted diseases;
4. the virus mutates rapidly and can become resistant to the host immune response. While the chance of infection with one sexual encounter may be low (e.g. 1 in 300) frequent encounters and the presence of cofactors, such as sexually transmitted diseases, can increase greatly the risk of this infection.

What is particularly noteworthy to recognize is that HIV infects not only human T lymphocytes and macrophages but also a wide number of different cell types in the bone marrow, lymphoid organs, skin, brain, bowel, heart, kidney and other tissues. Thus, while we now have very powerful anti-HIV drugs, these highly active antiviral treatments (HAART) only block fresh infections by the virus. They do not attack the large reservoir of HIV-infected cells that can be present in many organs in the body. In this regard, it has recently been estimated that it would take up to 60 years of HAART to eliminate the virus just from the immune system. Long-lived cells in



other tissues such as the brain, kidney, heart and testes, could keep the virus present for long periods of time, even a lifetime. Thus, a quick solution or cure of HIV infections seems highly unlikely. What is most important is that virus replication be kept in check; it must be maintained "silent" within the infected cell. Eventually, that cell will die and be replaced by an uninfected cell.

Long-term survivors

This ability for continual control of HIV has been achieved by individuals we term "long-term survivors" (or long-term non-progressors). They have been infected for more than 10 years and remain clinically healthy, have stable CD4+ cell count reflecting good immune function and have never been on any antiviral therapy. What is the secret to their control of HIV? It certainly appears that their immune system, their natural defense mechanism against infectious agents, is the mechanism. We, for instance, have been studying the function of a white cell in the blood called the CD8+ cell that we found produces a protein that has anti-HIV activity. This CD8+ cell antiviral factor (or CAF) prevents HIV replication within the cell at the transcription level but does not kill the cell. Thus, the cell can function but the virus is kept silent. By this CD8+ cell interaction with infected cells, HIV can be kept in control. As long as this immune function persists, the individual can potentially have a normal lifetime.

Future expectations for the HIV/AIDS epidemic

If control of HIV/AIDS is not improved in the near future, one can expect that this epidemic in 20 years will be responsible for 2 out of every 100 deaths worldwide; 14% of deaths by infectious diseases will be related to HIV, and AIDS will be accountable for up to 1/5 of the disability in the world. One fourth of all TB deaths will be associated with HIV/AIDS and this virus will be the cause of death of prime age adults who will not be able to take on the responsibilities of leadership both in family, business, and in government. A great deal of the infectious disease problems in Latin American and Caribbean countries will also be due to HIV/AIDS. Something must be done.

Strategies for prevention

Education is our best vaccine. What needs to be constantly provided to individuals, particularly young people from a very early age, is the information on the manner by which this virus can spread and how this transmission can be prevented by intervention techniques such as needle exchange and barrier techniques for sexual activity (e.g. condoms). Moreover, increasing economic support and health benefits will provide a means for which the host immune system can be improved to fight and control HIV. Women need to be empowered to protect themselves from this



virus and treatment of opportunistic infections and HIV can reduce some of the spread of HIV. We do recognize, however, that a vaccine is the optimal solution. Great efforts are being made by scientists throughout the world to develop an effective anti-HIV vaccine.

In terms of prevention, a study in Nairobi showed that 10,000 infections could be avoided in a year by having 500 commercial sex workers use condoms up to 80% of the time. In this regard, in many parts of Africa, the greatest risk of infection for a woman is being married. Thus, women must be given the right to refuse sexual activity or demand the appropriate prevention procedures.

Promising examples of HIV control

Despite this widespread epidemic of HIV/AIDS, particularly in the Southern hemisphere of the world, there have been some positive signs for control of the epidemic in Africa. In Uganda, the overall adult HIV prevalence has gone from 14% to 8%. In Zambia, females in prenatal clinics have shown a decrease in infection from 27% in 1993 to 17% in 1998. In Senegal, the overall prevalence of 2% reflects tremendous efforts by the government and non-governmental organizations to regulate commercial sex, to focus on condom distribution, treatment of sexually transmitted disease and overall education of the public. Thus, other countries can benefit from the valuable programs initiated in these parts of Africa.

Present approaches with therapy

Whereas industrialized countries have available to them the powerful antiviral drugs we discussed earlier, one must recognize that these drugs block new virus infections but do not affect the virus-infected cellular reservoirs. The immune system, under HAART, can improve to react against many different pathogens, but it does not respond to HIV. In fact, these drugs can be toxic and can suppress the anti-HIV response. This observation is evident with subjects who start the combination drug therapy at a viral load of 10-20,000 and see their viral load go to an undetectable level. Then when the drugs are stopped 2 to 3 years later, the virus rebounds to levels higher than the initial number observed (e.g. more than 1 million RNA molecules/ml); the number of CD4+ cells that have increased during therapy then become rapidly reduced. These features of interrupted therapy indicate that with HAART the host immune system is not functioning sufficiently to recognize HIV infection.

Recent observations indicate that the value of HAART in preventing AIDS deaths has gone down from a high of 66% in 1996 to 27% in 1997 and about 20% today. Resistant viruses are appearing and with the need to adhere to strict treatment guidelines, the value of HAART in delaying disease is probably about 5 years. Obviously, new approaches are needed to control this infection. My laboratory is



emphasizing the immune response, which is the major mechanism for control of HIV in long-term survivors. We believe that by combining antiviral therapy with approaches to enhance the host's immune system's recognition of the virus (either by using treatments that enhance the immune response or immunization with viral proteins), the ability to provide long-term survival to all infected people can be achieved.

Conclusions: a Vaccine

Despite all these successful efforts at treatment and recent attention to this grave problem by the United Nations and the world, a vaccine is the best solution to HIV/AIDS. The challenge is great because HIV infection is spread by a virus-infected cell as well as by free viral particles. We have never been faced with an agent that can be spread by cellular reservoirs in body fluids. This goal can be achieved, but we must continue intensively to teach and use prevention strategies including good education for the public on how to avoid HIV infection. Time is needed while scientists work to develop an effective vaccine.



Lacor Hospital, Gulu, Uganda



Rose Busingye, Meeting point, Uganda



"SHOTS IN THE DARK", THE WAYWARD SEARCH FOR AN AIDS VACCINE

Jon Cohen
Science Magazine
San Diego, Usa

Last year I traveled extensively through Africa, and in particular in Uganda with Professor Clerici and with Rose Busynge, and I realized that different African countries have diverse approaches to the problem of AIDS. The Italian government is trying to develop a vaccine and, in particular, the Istituto Superiore di Sanità is very active in Uganda. I have witnessed the fantastic job that the Combonian Fathers are doing in Gulu at the Lachor Hospital and have seen the dedication with which Rosie attends her terminal AIDS patients. In short, I have been very impressed by the work that the Italian Government is doing in Africa. I am a journalist and therefore I look at the problem of AIDS and of the development of a vaccine somewhat differently. I understand the language of science but I see AIDS with the perspective of a layperson. I have been studying the problem of building an effective AIDS vaccine for 15 years and I would like to briefly summarize what we have done, what we have not done, and what we should be doing.

In 1981, when the problem of AIDS started to surface, the spoke person of President Reagan joked on this disease and on homosexuality: we started off in a wrong way! On April 23, 1984, HIV was shown to be responsible for AIDS and was firstly isolated from the blood of an AIDS patient. This enormous step forward was possible thanks to the work of Professor Levy, Gallo and Montagnier. At that time it was thought that a vaccine was at hand, and it was said that a vaccine would have been available within the next 3 years. This goal has evidently not been accomplished but the population at large got the wrong message and believed that AIDS could have been easily defeated.

How should we build an AIDS vaccine? Let's consider the two approaches that have been used to build the anti polio vaccine. The first approach (Salk vaccine) is based on the use of whole killed polio virus inoculated subcutaneously; the second one (Sabin vaccine) uses live attenuated virus given orally on a sugar cube. Genetic engineering has allowed us to improve on these approaches: vaccines using dead viruses would nowadays be based on selected virus proteins; in the case of live viruses, small viral proteins would be transferred on an innocuous viral vector. As you see we are still following the same line of thoughts; we have only become a little more sophisticated.

A hepatitis B vaccine was built in the late 80's using small viral proteins that are nevertheless sufficient to elicit a protective immune response. This is an effective



and highly sophisticated approach to vaccine development. Unfortunately thought, HIV is very different from both hepatitis B and polioviruses; we do not know which are the correlates of protection against HIV infection; we do not know which viral proteins should or should not be used within a vaccine. Technology has come a long way, but the problem will not be solved by technology alone. The problem is HIV itself as this virus attacks the very heart of the immune system, additionally, HIV is a very tricky virus that keeps mutating and therefore hiding from the immune cells. These considerations explain why it is so difficult to develop an AIDS vaccine. The first AIDS candidate vaccines were made in the same way: different genetic manipulation of the envelope of the virus in the attempt to build protective immunity. It also has to be considered that drug companies prefer to invest in pharmacological compounds rather than in vaccines for a number of reasons: the profits are higher with antivirals, and the use of vaccines in healthy people could lead to health problems that provoke lengthy and expensive legal battles. In short: the whole vaccine market was worth 4 billion US\$ whereas a single antiviral could be worth up to 5 billion US\$ (1999 Wall Street estimate). Thus, if you are a major drug company, why should you waste your time and efforts in the attempt to develop a vaccine?

The first success in this story was seen in 1989: a monkey vaccinated with an env-based compound turned out to be protected against infection. In 1992 Bill Clinton proposed an all out effort in the attempt to come up with a safe and effective vaccine: the so called “Manhattan Project”. This is exactly the heart of the problem: scientists are, by definition, not keen to collaborate with each others within big structures; the “Manhattan Project”, that never took off, was designed to bring together AIDS scientists within a single organizational structure.

Initially, AIDS vaccines were designed to achieve sterilizing immunity; the objective is now to prevent disease and/or to delay the progression of HIV infection to AIDS. This is indeed a more realistic approach. IAVI, an international vaccine initiative, was created in the middle of the 90s in the attempt to use the scientific knowledge of the developed countries to build a vaccine that would have been effective in developing nations. The successes of antiviral combined therapy (HAART) came in 1996, but HAART does not cure AIDS; a vaccine will be the only way to stop the virus. Vaccination has allowed us to defeat smallpox, but this vaccine was developed empirically by someone who did not have any of the scientific knowledge that we have nowadays. We will eventually develop an AIDS vaccine, but we will need to drastically refocus our efforts. President Clinton predicted that we would have had a vaccine by 2007; unfortunately this is science fiction as a politician cannot make this type of statements. These announcements create false hopes that are damaging to everybody in the long run. What we really need is to focus on the few promising routes that have emerged in recent years. Experiments on primates are poorly organized and coordinated; additionally, it is not totally clear



whether the results obtained in primates can readily be translated to humans. Nobody is coordinating these efforts, that are nevertheless very interesting.

Let's consider all the human trials that are about to begin or that are tested on the field: it's a long and impressive list! Nevertheless, when one analyses the situation in depth we realize that the scenario is totally unsatisfying. Only one candidate vaccine has reached phase 3 and very few scientist believe that this vaccine has any hopes of being effective. Another vaccine has reached phase 2 (the experimental process envisions 3 different steps before a compound is brought to the market); also in this case the scientific community is highly skeptical. Other compounds are getting in the evaluation process, a process that nevertheless takes 5 to 10 years to offer definite answers. This is the situation today.

Amongst the problems:

- 1) experiments done in different laboratories are not comparable;
- 2) a number of bright scientists are working at the problem but an effective coordination is missing;
- 3) only one major drug company is investing in AIDS vaccine research.

There are 14 different antivirals on the market and every drug company is scrambling to get a piece of the action; the situation is totally different when one considers the field of vaccinology. In short: there are many problems. Nevertheless I am an optimist: The USA Department of Health has decided to invest in the quest for an AIDS vaccine more than all the rest of the world combined. EUROVAC is working on an European vaccine candidate. South African-based vaccine initiatives (SAVE) are moving forward in a bold way. IAVI has powerful financial resources donated by governments and privates (Gates foundation is a major and generous sponsor of IAVI). As said above, a major drug company is effectively trying to develop a novel vaccine approach.

We will need to establish precise goals: to coordinate primate research, to finance those scientists that are working at this problem. Democracy will not work; we will need a smart, enlightened, and ambitious dictator to coordinate a major, massive scientific battle. We will need private and public money from governments, philanthropists, citizens. The battle will need to be fought on all fronts.

I am an amateur soccer coach and the most difficult thing is to explain to my players that they should not all run after the ball but rather keep their positions on the field. This is the best strategy to score goals and to defeat the opposing team. The more I learn, the less I realize I know. I do not have the answers but I know that we can do much more, that we need to do much more. History will look at us in a very severe way: we are wasting occasions and time runs by.



Meeting point Kitgum, Uganda



HIV/AIDS EPIDEMIC: THE ITALIAN PERSPECTIVE

Donato Greco, M. D.

Istituto Superiore di Sanità, Rome, Italy

Twenty years after the onset of the AIDS epidemic we appear to be only confronted with defeats. This contribution of mine is meant to witness that the daily fight against AIDS has not only produced defeats, but positive results too, showing that the monster may be cooped up – although it has not, yet.

In Italy the epidemic began to spread in 1982. Over 50,000 clear cases are counted at present in Italy and a routine monitoring system has been set up.

The epidemic is now turning to that bell-shaped curve which epidemiologists expect all infections to arrive at. An epidemic gets started, reaches its peak and then at a given moment begins to fall.

A monitoring system to track new infections down has been activated and, also in this respect, the number of newly infected persons has clearly shown to be falling. Unfortunately, the fall of the curve is not completed, we are probably heading towards a plateau which will last long.

Moreover, the curves of incidence are different in Italy. In the year 2000 the incidence of AIDS still proves to be highly differential between the North (higher) and the South (lower) of the country. Despite a twenty years' study, there is no explanation for that phenomenon, yet.

Also the age of first diagnosis is tending to rise. AIDS is growing older, it is increasingly striking mature people. The young are no longer so much affected, the grown-ups are.

What reasons can explain such data? No doubt, the number of the highly at-risk people, those who first gave the epidemic an input, those addicted to hard drugs, who shoot up drugs several times a day, the first ones who were infected, is wearing thin. No doubt, preventive measures, ranging from blood tests to sexual transmission prevention, are bearing fruit. Even among drug addicts the infection is no longer spreading as much as it used to. Much is owed to antiviral treatment, which has been able to block virus replication and, in turn, to reduce infection and transmission. Let me only remind you that an AIDS infected person today is bound to undergo costly treatment all of his or her life. This is an important commitment, but in Italy it can be done.

The figures about our country are quite the same as those of the richest countries. Throughout these countries the epidemic is falling, throughout these countries both prevention and therapy are proving effective.

Let us consider Uganda now. It is a small country, wonderful upland rich in water, an Earthly Paradise where life may be beautiful but where people are confronted



with so much suffering of all kinds.

In such a reality, there is a hospital, in Northern Uganda, where one of the most advanced, best developed realities of all Africa has been built by two courageous people, Piero Corti and Lucille Corti, in 40 years' work. It is an Africanized hospital, with much schooling, much training and, over the last few years, much activity and prevention on the local level, as well. A co-operation project has been developed and carried out over the last nine years between Italy's Foreign Ministry, Uganda's authorities and Italy's Istituto Superiore di Sanità. Such project sets out to attempt an integrated approach, without limiting solely to research or to training. Quite to the contrary, it envisages activities covering the whole spectrum of action, from research to training, to prevention, and it is focused on the person. Not simply lymphocytes and cells, vaccines and antibodies, but the person in his entirety.

Dr Matthew Lukwija led this project for 8 years, dedicating his life to the fight against AIDS. When Ebola ravaged his hospital, he did not hesitate to sacrifice his own life in the struggle, and he eventually passed away in November 2000.

How did HIV diagnosis services grow from 1998 on?

Up to that year, HIV tests were not carried out in hospital, as happens in many other places in Africa, as testing was completely uninfluent. It was merely a waste of money. HIV diagnosis service led to the activation of HIV treatment service, and then of health education within the boundaries of the district, which, as Matthew had suggested that we should do, became our first commitment. Much has been invested in training, seeking to reach out for schools and villages, to reach out for people where they are present. The enormous amount of outpatient care service offered by the hospital is being exploited more and more, as with the over 20,000 women who come and ask for counseling in the period before they are delivered of their babies. Health care activities were systematically carried out for several years at the 8 secondary schools of Gulu, aiming on the one hand at training teachers – some 50 a year – and on the other hand at counseling every single student of the school.

What about the outcome? I cannot say that it is only us who have achieved a good outcome. Yet, things are different compared to when it all began and we feel like thinking that we have all together helped restrain this monster. Let us consider the figures related to the percentage of HIV-positive women looked after at children's and women's surgery departments. Since 1993, on the percentage of infections has constantly been, even though modestly, slowing down, although this fall has come to a halt over the last few years.

The same phenomenon is observed at Kampala's Nsambya Hospital, where a similar programme is being implemented. Again, when figures are disaggregated according to age groups, the percentage of the HIV infected goes, for example among Lacor students, from 9% of 16-year-old young girls to 19% of girls over twenty of age. Therefore, there is a direct relationship to age. However, in all age groups the fall of percentages is evident. The percentage of patients hospitalized is



decreasing in the various departments, from catastrophic 74% of the very first years to 60-50% of the latest controls.

As far as the education activity is concerned, the programme for students at Gulu secondary schools does not include the distribution of condoms, but does not exclude it, either. There are no preconceptions. Direct distribution is not part of our programme, though.

A change in sexual habits, such as a delayed initiation into sexual activity, cannot be denied.

Beside this, the percentage of HIV infected among the student's population has decreased from 2% of 1994 to 0.8% of 1998. The figures for 1999 are even lower. This all happened and is still happening without medicines or vaccines. Clearly, this alone cannot restrain the monster, but it proves, once again, that it is not ships loaded with antiviral medicines that can enable us to cope with the problem where it is worse. What we need are the knowledge and awareness of effective relationships which cannot but be integrated around the person. It is a programme contemplating the interaction of education and health care, favouring counseling – i.e. personal face-to-face talks, which have proved really effective in changing behavioural habits – and providing patients with diagnosis services and appropriate treatment. Of course, science's failures are under everybody's eyes. But let me only remind you that AIDS is by far the most deeply studied infection ever in history.

Within such a short span of time, no other disease has ever benefited from the same funding and resources – in Italy too – as AIDS has. Extraordinary findings have been made within few years. It took us 200 years from Jenner's discovery of the smallpox vaccine to the eradication of the disease. Again, it took the vaccine over 50 years to completely eradicate poliomyelitis. In the case of the HIV/AIDS epidemic important progress has been made in very little time. Of course, this is not enough and leaves us all very disappointed. In my opinion, the systematic reproduction of integrated projects centred on the person and not simply on the disease is the best solution to fight against the monster.





AFRICAN ENIGMA: KEY PLAYER IN HUMAN IMMUNODEFICIENCY VIRUS PATHOGENESIS IN DEVELOPING COUNTRIES?

Mario Clerici, M. D.

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I will discuss with you data stemming from complex immunologic and virologic analyses in which we compared immune responses in healthy people and in HIV patients that live in the developed world or inhabit developing countries. In particular, we examine the functionality of the so called CD4 T cells, the cells that coordinate the entire immune response, in individuals living in Italy or in persons from Gulu, a town in the northern Uganda.

Immune cells produce a number of proteins (cytokines) that can be divided into two functional families. So called “type 1” cytokines are better activators of immune defenses against intracellular pathogens and, in particular, viruses. “Type 2” cytokines are better suited at activating those mechanisms that protect us against parasites. Logic says that the activation of type 1 cytokines, those that are better at defending us against viruses, will help us out in containing HIV infection. Activation of type 2 cytokines would be like sending the Navy to fight a land battle.

As a matter of fact, if we follow HIV-infected patients we see that type 1 cytokines wane in parallel with the progression of the disease to AIDS. These data have been published starting in 1993 in a number of HIV-infected individuals living in developed countries.

More recently we wonder if the same immunological model can apply to patients living in developing countries where parasitic infections are endemic. To find answers we traveled repeatedly to Gulu where, in collaboration with the Lacor Hospital, we have analyzed CD4T cells of HIV-infected and uninfected individuals. Results have shown that T cells of people living in Gulu are functionally different from those of individual living in developed countries. Thus, cells of healthy and HIV infected individuals from Gulu produce much higher amounts of both type 1 and type 2 cytokines. We believe that the presence of high amounts of type 2 cytokines weakens the immune defenses against HIV infection and that this result could at least partially justify the higher incidence of HIV infection and the faster rate of disease progression seen in Africa. It is extremely interesting to note that individuals living in India or in West Africa (where AIDS is almost endemic) show immune profiles (i.e. high production of type 2 cytokines) that are totally similar to those seen in Gulu and completely different as compared to those present in individuals from developed countries.

To verify if the differences were genetically-associated or provoked by



environmental factors (high incidence of parasitic infections; poor hygienic conditions; dietary limitations) we studied these parameters in individuals from Gulu that moved to Italy as well as in Italians who live in Gulu. The results clearly revealed that the immune system of Africans that live in Italy becomes similar to that of Italian and, vice versa, the immune response of Italians living in Africa changes and shapes up in an “African” way. Thus, environmental factors shape the immune response in such a way that this response becomes finalized at defenses against the pathogens that are prevalent in different geographical regions (Africa → parasites → type 2 cytokines; Europe/USA → viruses → type 1 cytokines).

To complete these studies, it has to be specified that two different types of HIV can be present in patients living in developed countries; R5 and X4. We analyzed if this would hold true in African patients and observed a major difference also in this case: in infected patients living in developing countries R5 viruses are almost exclusively present.

What is the message stemming from these results? We believe that because of these peculiarities, the therapeutic and vaccinal strategies against HIV infection developed in the industrialized world might not be as effective in the African setting. Hence, in African patients HAART might be significantly more effective when given in association with anti parasitic drugs; the dose of vaccine inducing the best immune response could be slightly different; and specific immune modulators are likely to be needed. What needs to be done? We need to understand if and how these immune differences will modify the response to therapy and to possible vaccines; if we will need to intervene trying to change the immune profiles characteristic of individuals living in developing countries; and/or how to use these immune differences as specific therapeutic tool. This will take time and efforts. In the short run I believe that the only tool for HIV prevention stems from the use of physical barriers: condoms can prevent AIDS. I am fully aware that this can raise ethical questions.



SHARING THE NEED TO SHARE THE VERY MEANING OF LIFE

Pier Alberto Bertazzi, M. D.

Department of Public Health, School of Medicine, University of Milan, Italy

Almost twenty years ago, back in June 1981, a brief report on a US epidemiological journal for the first time acknowledged the existence of a disease which would impose itself as the most feared, debated and also investigated one in the years to come, a disease which would urge the political and scientific communities to allocate huge resources to fight it. That was AIDS, a syndrome to be soon re-christened as the plague of 2000. In a word, a monster.

Twenty million persons have died since then because of this disease and at present the infected persons exceed 36 million all over the world. So has the monster really been cooped up? Typically, the AIDS issue has been tackled here at this Meeting edition not only because it is such a hotly debated issue and we feel entitled to voice our point of view. The Meeting is facing an issue which is part of this human drama of ours, of the life we share with our brothers and fellowmen here and throughout the world. AIDS has come to be not only a feared disease but also a phenomemon deeply affecting the culture, social relations and everyday life of entire generations and peoples. Indeed, it is an issue of ours. The AIDS issue has been, and is still being, tackled with a twofold purpose. First, to understand the real terms of this question, so often distorted – not only superficiality is to blame, often hidden and yet evident ideological biases are to blame – by those who should carry out the duty of informing us. Second, to understand how we can cope with that phenomenon which is marking such large parts of society through judgements, choices, behaviours and decisions of ours adequately proportioned to the real dimensions of the problem. In fact, the actual dimensions of this problem go far beyond those of a virus or a disease, they are the dimensions of man and of the people to which man belongs. It is a problem deeply affecting man's suffering and his need for salvation. It is a problem concerning man's need for a reason to live for, that is his search of sense. This is the real meaning of man's search of healing.

Much has been taught us this morning, from a scientific perspective too. First of all, it has been so great to realize how many people, among whom scholars and scientists are numerous, are so passionate for truth to tailor their own work and profession aiming at the discovery of reality for what it is, rather than superimposing a vision or prejudice of theirs on it.



Secondly, many have stressed the importance of the fact that, when confronted with a disease, and all the more with AIDS, we cannot merely limit ourselves to technical diagnosis and pharmacological therapy, but we must take care of him who bears it. Thirdly, it is so true that a disease is linked to him who bears it that the same disease on different persons or peoples cannot but be different. Therefore, an approach tending to export prefixed models, for example from the Western world to Africa, as has been pointed out, is extremely dangerous and probably doomed to failure. In this respect, let me quote the words of an African politician who used to say: - Whatever lesson we may learn from the Western world concerning AIDS, if it were to be a mere superimposition of a Western model on Africa's reality, it would end up in something absurd and illogical -. Such an approach and consciousness are of the utmost importance. After last June UN General Assembly special session on HIV/AIDS, a "Global Fund", supposed to raise 7 to 10 billion dollars from state and private donors, was set up for the fight against AIDS, malaria and tuberculosis. Most of this fund should exactly be spent on the implementation of some of the treatments currently used in the West. Now, a question arises in this approach, as it is irrespective of the person affected by the disease. I shall only mention, among the many voices raising a question on this approach, the probably most unexpected voice of all - and for that very same reason the most significant - that of Wall Street Journal. Shortly after the UN General Assembly session, it reported that AIDS is easily spread in Africa owed to the endemic fatalistic attitude of African peoples. However, such an attitude would even be worsened if the fight against diseases were regarded as a mere ethical duty of Western governments. Quite to the contrary, it is Africans in the first place who can and must fight the HIV-virus by adopting more responsible policies and - so went the report - sexual faithfulness. The US rate of newly infected persons is no longer increasing at present thanks to an increased responsibility in personal behaviour. Thereby, many more lives will be saved than with a number of ships loaded with medicines. As it has been highlighted, the mere supply of tons of medicines may be challenged also on a scientific basis. Behaviour is essential and responsibility and sexual education are vital for prevention. On the other hand, reducing prevention to the mere distribution of condoms simply means washing one's hands of the core of the problem and propagandizing a tool which is really effective only in a limited number of cases. An example may clarify this: it is as if the solution to the problem of noisy industrial environments were to be the introduction of ear plugs. Clearly enough, the AIDS problem has a different scope and requires us to deal with it in a different way by taking the context into consideration. In this respect, let me quote the words of another African leader who stated: - Since the mid-1980s we have been more and more confident about the fact



that condoms are to be considered as a secondary tool compared to a change in people's sexual habits -. We cannot encourage, as some shortsighted forms of prevention would, uncontrolled sexual promiscuity caused by the loss of traditional values. Prevention is fundamental and it is a prevention which must take the whole dimension of man and the context where he operates into account. This clarifies and supports what has been a slogan of ours in so many fields "To share the need to share the very meaning of life". A need cannot be shared, not even the least, the most peculiar, most specific one, if the destiny of him who bears it is not shared as well. In other words, sharing his wish for happiness, his need for salvation, that cry which is born of the red palpitating heart of Matisse's Icarus.





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