

A Comparison of the Delivery of Antiretroviral Therapy System between Brazil and India

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Abstract

The similarities in size, trend of the epidemic, the generic drug industries and the high poverty levels between India and Brazil help to draw comparisons with regards to their ART delivery system. In Brazil, the Unified Health Systems, created in 1988 to address the health care needs of PLWHA, played a crucial role in the implementation of the policy of free universally available ART. Brazil used its resources to train physicians with the latest standards of care in the diagnosis, counseling and treatment of HIV/AIDS as well as to set up a 424 AIDS Drugs Dispensing Units (ADDU). SILCOM and SISCEL are seen as Brazil's most valuable tools in overcoming the challenges that face efficient delivery of ART. In phase I of the National AIDS Control Program, India selected fifteen institutions in six states to train physicians on counseling, diagnosis and treatment of HIV/AIDS. Each hospital set up has an anti retroviral unit for adults and children with a family meeting room to discuss coping mechanisms related to their treatment. Each unit has a research officer, a counselor, a record keeper and a computer with a printer. The record keeper at each unit keeps track of the monthly progress report and performs quarterly cohort analysis. India and Brazil facing similarly challenging situations with HIV/AIDS have a lot to learn from each other to improve their deliver systems of ART for PLWHA.

Key Words

Brazil, India, HIV, ART delivery system.

Introduction

Brazil is home to one of the largest populations of HIV/AIDS infected people in the world. Between 1980 and 2001, the estimated number of people living with HIV in Brazil was 597,000 and out of these only 222,356 were registered cases of AIDS (1). Since then, about 50 percent of these individuals have died (1). President Fernando Henrique Cardoso, responding to the high prevalence of HIV/AIDS, signed a law establishing the free distribution of antiretroviral therapy (ART) to all people living with HIV/AIDS (PLWHA) in 1996 (1). This intervention worked, making the Brazilian system of delivery of ART a model for other lower income countries.

India, with a population of approximately one billion, has an adult HIV prevalence rate of about 0.8 percent across the country, with a value exceeding two percent in certain states (2). India alone accounts for 10 percent of the global burden of HIV and about 65 percent of the HIV/AIDS cases in South and South East Asia (2). Six states in India, namely Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtra, Nagaland and Manipur, have been estimated to account for almost 90 percent of the HIV/AIDS cases (3). Former Union Minister for Health and Family Welfare, Smt. Sushma Swaraj, announced in November 2003 that the government would provide ART

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for 100,000 people from April 2004, with a plan to make ART available to everyone by 2008(2).

Given the similarities in the size, the trend of the epidemic, the generic drug industries and the high poverty levels between India and Brazil, much can be learnt by comparing and contrasting their ART delivery systems.

Delivery System in Brazil

The Unified Health Systems (Sistema Unico de Saude, SUS) was created in 1988 to address the health care needs of PLWHA, and played a crucial role in the implementation of the policy of free universally available ART (4). Brazil also used its resources to train physicians with the latest standards of care in the diagnosis, counseling and treatment of HIV/AIDS. The process of distribution of ART is very complex, as ART patients must be closely monitored for adverse effects, drug resistance and adherence(5,6).

To make this complex process a reality, the Brazilian government has set up 424 AIDS Drugs Dispensing Units (ADDU) (7). These are located at public hospitals or primary health centers (PHC). For an individual to receive drugs, he/she has to be enrolled in one of these centers and should be followed up by a doctor who counsels him at each visit and keeps track of his progress. Therapy is initiated following WHO guidelines. Once a patient is enrolled in the system, he receives a unique magnetic code, which contains all his medical records. This technological innovation also helps with the authentication of drug requests. At every unit, there is at least one computer running system known as Sistema de Controle Logistico de Medicamentos (SILCOM – computerized system for control of drug logistics) which keeps track of vital information for each person who visits the unit. This system helps to keep track of each individual's prescriptions and insure an adequate stock of drugs. At the end of each day, all records collected by SILCOM are sent to the National AIDS Programme in Brasilia. There, the system runs a check on all the prescriptions for that day and detects any flaws, if present, and the ADDU at which it occurred. The ADDU is then contacted and informed of the error, and thus ADDU in turn can contact the individual and make the required change in the prescription.

It is also essential to track an individual's progress through CD4 cell counts and viral load (8, 9). Brazil has a network of laboratories where PLWHA are provided with the above services free of charge. In 2001, the ministry expected to run about 400,000 CD4 cell counters at a projected cost of US\$ 18 million (1, 10). All the information from these laboratories is gathered by another system known as Sistema de Controle de Exames Laboratoriais (SISCEL – system for control of laboratory information). This system tracks individuals' test results and lists the changes that it has observed over time, giving clinicians vital information about the ideal therapy for each patient. SILCOM and SISCEL are seen as Brazil's most valuable tools in overcoming the challenges that face efficient delivery of ART (4).

Delivery System in India

For the first phase of the program, the government of India has selected fifteen institutions in the six states mentioned earlier that will train physicians on all aspects of counseling, diagnosis and treatment of HIV/AIDS (2). This training program will last for five days. The training of the physicians will be done by the head of the department of medicine in each hospital, provided this individual has attended a five day training program himself. Each of the fifteen hospitals is expected to set up an anti retroviral unit (ARV unit) which will cater to both adults and children. Each ARV unit will be provided with a research officer dedicated to the unit, a counselor, a record keeper and a computer with a printer. When a patient meets the WHO criteria for initiation of ART, he/she will be enrolled with a unit. On enrollment, they will be given an ARV identity card and will be counseled on adherence and adverse events they might experience. A monthly master card will also be maintained to keep track of the patient's monthly progress. The patient will be asked to bring remaining pills at the end of the month so that the level of adherence can be assessed (11). If a patient fails to attend the ARV unit at a scheduled date, then non governmental organizations (NGOs), who work with home based care will be asked to intervene. The fifteen selected institutions will set up links with district hospitals so as to help with access and delivery. Presently, in all the other states, the government of India will only

provide support in the form of free treatment of opportunistic infections. The National AIDS Control Organization (NACO) has asked each of the state AIDS control societies to make known their expected requirement of ART for the next year. The record keeper at each ARV unit will keep track of the monthly progress report and perform quarterly cohort analysis. Each of these ARV units will also have a family meeting room where PLHWA and their families can meet to discuss coping mechanisms for the problems they are facing with their treatment. This will serve as peer counseling for many and has been shown in certain instances to be more effective than counselors themselves (12). NACO has plans to set up laboratories for free CD4 and viral load testing, but currently nothing is available free of cost (2).

Discussion

The Brazilian system is considered one of the best in the world for good reason. However, there are certain parts of the system that could be improved. First, every individual's record contains the patient's name and identity number. The stigma attached to HIV/AIDS is so strong that if these records are made available to anyone, (for example employers), even by chance, patients may face social repercussions above and beyond those associated with the illness alone. Perhaps a system could be devised where patients are tracked by their identity numbers only (12). A similar system could also be attempted in India.

Additionally, in both countries, it might be more useful to create a system where the errors in prescription processing, if any, are identified immediately before the patient received the drugs. This could significantly reduce wasted time and money that could instead be spent on additional services. One way to do this is to color code the drugs. If the drugs can be visibly identified, patients would know immediately whether they are prescribed the wrong medication – the drug color would not match what they have been previously taking.

It has been suggested that HIV prevalence is underreported in the majority of the states in northern India. It is possible that individuals from northern India might travel to one of the six states that have the free

drugs in order to be part of the new program. In light of this, each of the states should have inclusion/exclusion criteria for admitting people into their program as follow up for such people would be difficult. Another option would be to follow the Brazilian system and make ART universally accessible and set up units countrywide.

People with HIV/AIDS are immunocompromised and are therefore at a higher risk of acquiring infections when compared to healthy individuals (13). To minimize the risk of infection, it would be ideal if the Indian government created ARV units similar to the ADDU's in Brazil, which are exclusive to the PLWHA at the hospitals. At the same time measures should be taken to make the functions of this department as inconspicuous as possible so as to minimize the stigma attached with HIV/AIDS.

India could also learn from Brazil's experiences and try to establish a system similar to the magnetic code which enables an individual's record to be accessed electronically from any unit in the country. This would give patients the opportunity to procure their therapy from the unit they feel is most convenient to them, on the scheduled date. This would also aid the government in estimating the stocks required at each site. CD4 cell counts and viral load monitoring are also an integral part of the management of HIV. In resource poor settings cheaper monitoring techniques should be validated against the gold standard – CD4 and plasma viral load (14-17). NACO should establish centers where patients can undergo free testing for these parameters at least once in six months. As of now, NACO has plans to do this, but nothing has been put into practice. A system similar to SISCEL should be developed to track each patient's progress (12). Brazil, on the other hand, may benefit from family counseling centers, similar to those planned in India, where the families of PLWHA could meet and discuss some of the issues they may face.

Brazil has been experimenting with ART delivery systems since 1996, and as a result, the government physicians now have a considerable amount of experience in this area. In India, however, it has predominantly been the NGOs and the private practitioners that have dealt with ART until now. Though measures are being taken to

bridge this gap, it could be more efficient if the NGO's were involved more with the delivery of the drugs.

The majority of the people being targeted for free drugs are poor and also illiterate. For this reason, counseling plays a pivotal role in adherence. The government could monitor adherence by having health care workers conduct surprise checks at the patients' residences. This will establish the patient level of compliance and check if the drugs are actually being consumed by the patient or if they are being sold to others. For ethical reasons, patients would have to be informed of the possibility of these surprise checks at the time of enrollment. A specific protocol should be developed to deal with non adherence, as drugs for the treatment of HIV are limited and the development of a resistant strain is more likely with sporadic use. Patients should be counseled on nutrition as this also plays an essential role in adherence.

Directly Observed Therapy Short-Course (DOTS) therapy for tuberculosis in India was a great success because peers actually monitored patients while they took their drugs (18). One possibility for HIV, similar to DOTS, would be for the government to supply once daily drugs and instruct family members or friends, to whom the individual has disclosed his status, to ensure that the patient follows his regimen. India and Brazil are facing similar challenging situations with HIV/AIDS and have to learn a lot from each other to improve their deliver systems of ART for PLWHA.

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