

**GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA**

STARRED QUESTION NO:182
ANSWERED ON:04.03.2003
DEVELOPMENT OF VIRAL MEDICINES AND VACCINES
DR. KIRIT SOMAIYA

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) whether the Department have made any success in th research and development of anti retro viral medicines and vaccines;
- (b) if so, the details thereof;
- (c) the details of the follow-up action taken regarding ongoing research projects in this regard;
- (d) whether any alliance or understanding with any UN Agency of Pharmaceuticals Research Institute has been reached;
- (e) if so, the details thereof;
- (f) whether any such research activity with Indian Medicines has been undertaken; and
- (g) if so, the details thereof?

Answer

THE MINISTER FOR SCIENCE AND TECHNOLOGY (PROF.MURLI MANOHAR JOSHI)

(a) to (g) A statement with regard to Lok Sabha Starred Question No.182 to be answered on 04.03.2003 is laid on the Table of House.

STATEMENT REFERRED TO IN THE REPLY TO THE LOK SABHA STARRED QUESTION NO.182 BY KIRIT SOMAIYA REGARDING `DEVELOPMENT OF VIRAL MEDICINES AND VACCINES` TO BE ANSWERED ON 04.03.2003.

(a), (b) & (c) The Department of Biotechnology is supporting research under the National JaiVigyan Science & Technology Mission on `Development of New Generation Vaccines` which includes candidate vaccines for HIV-I clade `C`, the strain prevalent in the country. DNA and recombinant vaccine as prime boost strategy has yielded encouraging results in small experimental animals and these are under evaluation in the non-human primates. The ongoing research projects are regularly monitored by experts; wherever necessary, mid course corrections are also carried out. The National AIDS Research Institute(NARI), Pune under the Indian Council of Medical Research is engaged in R&D and clinical trails of anti-retroviral drugs for HIV.

Currently, two leading Indian drug companies, namely, Cipla, Mumbai & Ranbaxy, New Delhi are manufacturing generic version of several anti-retroviral drugs i.e., Zidovudine, Lamivudine, Nevirapine, Stavudine, Didanosine, Efavirenz, Saquinavir, Indinavir, Ritonavir and Nelfinavir. Cipla has been able to bring the cost of triple drug cocktail from US\$ 10,000-15000 (INR 5.0 lacsto 7.5 lacs) per annum per patient to US\$ 350(INR 17,500) per annum per patient by making the generic version. The Government has also exempted these drugs from excise duty to make them more accessible and affordable. Some drugs namely, Ritonavir, Saquinavir, Zalcitabine have been exempted from custom duty as well.

(d) & (e) The National AIDS Control Organisation (NACO) and the Indian Council of Medical Research, both under the Ministry of Health & Family Welfare have entered into a tri-partite partnership with International AIDS Vaccine Initiative, USA to develop a vaccine using six genes representing relevant antigens of the Indian HIV strain. These genes have been inserted into a Modified Vaccinia-Ankara. The prototype vaccine is poised for pre-clinical toxicity studies. Another proposal for HIV/AIDS vaccine development for clade `C` in collaboration with Emory Vaccine Centre, USA is under active consideration of the INDO-US Vaccine Action Programme of the Department of Biotechnology.

(f) & (g) A number of national institutions have undertaken research in alternative systems of medicines, namely, ayurveda, siddha and homeopathy in order to screen ancient and traditional compounds for their anti-HIV properties. The Government of Tamil Nadu has created a Siddha Research Unit in Madras Medical College, which was extended to the Govt. Hospital of Thoracic Medicine in 1993. In a Double blind random Placebo Controlled Study, several hundreds of patients with HIV/AIDS were treated with Siddha drugs namely RASAGANDHI MEZHUGU, AMUKKARA SURANAM and MALLIKKAI LEHIYAM. Improvements were noted both clinically and in CD-4 count. Two plant extracts viz. PS-01 & PS-02 have shown inhibitory effects on HIV-I reverse transcriptase under in vitro conditions. Similarly, two proteins from placenta extracts of first trimester have shown anti-HIV activity against HIV field isolates. The National Institute for Reserach in Reproductive Health(NIRRH), Mumbai has also developed microbicides in research mode and two of them are undergoing clinical trials.

