VIEWPOINT

Unmet ethical concerns of the proposed preventive HIV vaccine trials in India

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According to estimates of the National AIDS Control Organisation, there are 4.58 million people living with HIV/AIDS in India (1). An effective vaccine is considered to be one of the strategies to deal with the rapid spread of HIV infection in the country (2). I suggest that an overemphasis on preventive HIV vaccine research in India undermines the therapeutic HIV vaccine research needs and violates the ethical principle of distributive justice. Further, the vaccine campaign must address the vulnerability of potential trial participants and limits of regulatory mechanisms.

The choice between preventive and therapeutic vaccine

Preventive HIV vaccines are designed to prevent HIV infection whereas therapeutic HIV vaccines are designed to boost the immune response of a person already infected with the virus (3).

The ethical dilemmas of promoting a preventive HIV vaccine over a therapeutic vaccine in developing countries have been acknowledged by some commentators (4). Leading proponents of distributive justice advocate that members of society should have equal resources and the power to use these resources (5). The selection of research direction, emphasis of research, choice between preventive and therapeutic vaccine are not value neutral decisions in the Indian context. The distribution of public goods, including the products of scientific discovery, is unequally structured on the lines of caste, socioeconomic status, geographical location, sex and age.

The majority of people living with HIV infection in India are unaware of their vulnerability and their HIV status. Many live in grinding poverty and are deprived of the basic health care facilities. The urgent needs of these people should take priority on the research agenda. A preventive HIV vaccine may not bring dramatic changes in the quality of life of these people.

The results of preliminary trials and other scientific data indicate that commercial production and distribution of a preventive HIV vaccine are several decades away (6). The continuing genetic mutation of the virus could even make a universally effective HIV vaccine an unrealistic expectation (7).

Some researchers have argued that a preventive vaccine represents the best long-term hope for HIV/AIDS control (8). I suggest that even if a universal HIV preventive vaccine becomes available, the long-term hope for HIV/AIDS prevention is in political commitment, in programmes that reduce the vulnerability of specific population groups, and in addressing health inequities nationally and globally. A biomedical solution will not provide an exclusive long-term solution (9).

About 90% of HIV transmission among adults is through unprotected sexual intercourse. Reduction in HIV transmission through sex is possible through consistent and correct use of condoms. However, vulnerability to HIV transmission and the ability to identify and reduce are unequally distributed according to sex and socioeconomic status (10). A programme for universal HIV prevention vaccination will face similar obstacles.

HIV prevention strategies must also address structural factors contributing to the vulnerability of women and marginalised populations, and social support needs of people living with HIV infection (11). This proposal may be weakened by unrealistic expectations created by advocacy for an HIV preventive vaccine in India.

In this context, one must carefully analyse the ethical implications of investing only in a preventive HIV vaccine, and weigh the opportunity costs of not investing in a therapeutic HIV vaccine.

Why therapeutic HIV vaccine research must take precedence in India

Therapeutic HIV vaccines offer greater opportunities to strengthen the broader response to the epidemic and immediate benefits to health care delivery systems. A therapeutic vaccine could contribute to the reduction in burden of disease and enhancing the quality of life of people living with HIV infection. Advocacy for preventive vaccines must not compromise the need for a therapeutic HIV vaccine. Due to the lack of data and experience in dealing with

HIV therapy in resource-poor settings, the Indian generic pharmaceutical industry's capacity to provide cheaper anti-retroviral (ARV) drugs is not fully exploited by health care providers. The current standardised ARV therapy may soon run out of therapeutic options, as they become less effective on large populations. An aggressive therapeutic HIV vaccine research programme can offer alternative solutions.

Testing on vulnerable populations

Careful considerations are to be made in testing an HIV vaccine on vulnerable populations. It is necessary to ask questions about HIV preventive vaccine research in developing countries: Are all individuals equally capable of taking informed decisions irrespective of their sociocultural context? Are individuals entirely responsible for the consequences of their 'informed decisions'? Will clinical trial investigators ensure the best interests of clinical trial participants?

The majority of participants in preventive vaccine trials are to be recruited from vulnerable populations. They will have to take a number of unquantified risks—the biological risk of getting infected with HIV; unknown side- and long-term effects of the vaccine; unmet treatment needs; social and economic consequences such as loss of income; loss of existing insurance cover, incidental costs such as travel, cost of seeking legal and medical advice, disturbance of domestic life and potential stigma and discrimination.

We need to further discuss the conflict of interest between trial volunteers who surely want to stay uninfected at all costs, and researchers 'needing' some people to become infected to prove that those vaccinated are genuinely protected.

Need for data on behavioural and social issues

Discussion on the ethics of a preventive vaccine must be based on information on people's beliefs about HIV illness and vaccine efficacy; factors influencing willingness to participate in trials and their understanding of technical concepts such as placebos and the double blind methodology. There must be data on issues such as the meaning of inducement in resource-poor settings; minimum standards of informed consent processes, counselling procedures and confidentiality requirements.

Regulatory framework

Commentators have noted that Indian regulatory agencies are weak and medical councils refuse to act against errant doctors (12). The Indian Council of Medical Research (ICMR), the key partner in the Indian HIV vaccine consortium, has so far not been able to punish those who violate its ethical guidelines. In the absence of a comprehensive legal framework, how will ICMR demonstrate that it can enforce its ethical guidelines?

In developed countries, Data and Safety Monitoring Boards are committees of independent clinical research experts who review data while a clinical trial is in progress and ensure that participants are not exposed to undue risk. They are empowered to review data and may also recommend that a trial be modified or stopped if there are safety concerns, or if the trial's objectives have been achieved. Is such close scrutiny possible in India?

Transparency

Investigators are obliged to make a statement on ethical issues relating to their research and its resolution. There is no evidence that members of the ethics committees of the vaccine trial have rigorously analysed the ethical implications of the proposed trials. In the absence of a detailed clinical trial protocol of the proposed HIV vaccine trial in India, with details of risk and benefits—and how they were assessed—the value of community consultations is reduced to a public relations exercise.

Consultation on the HIV vaccine trial in India should be based on a 'white paper' on the risks and benefits of participating in the trial and an in-depth debate on the priority and relative merit of a preventive vaccine versus therapeutic vaccine.

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