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LETTER TO THE EDITOR

Epidemiological Reports versus Estimates-An Analysis

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Sir,

We compared data of the earlier epidemiologically estimated number of HIV/AIDS and the later actual reported number of HIV/AIDS and realized the need for better statistical tools and a sharper analytical mind. This is the case with any infectious disease epidemiology more so in HIV/AIDS.

A few issues that need concern in HIV/AIDS epidemiology would include

- 1) The asymptomatic and the latent course of HIV infections should make epidemiologists advocate more “active surveillance” methods.
- 2) Underreporting is a problem with the HIV carrier state and the “window period” [1] adding to this burden.
- 3) The progression from HIV to AIDS may take years, thus while estimating future data, the awareness that current cases of HIV would be in the future list of AIDS should prevail.
- 4) As in other infectious diseases epidemiology of the “migration factor” (2) has to be considered.
- 5) The number of HIV/AIDS deaths [3] would have a definite influence on future HIV/AIDS prevalence rate.
- 6) Any alarm in the rise of HIV/AIDS in the student population should be double checked. Many illegal immigrants in any country for that matter pose as students or acquire a student visa and thus give false values.
- 7) Any dominance of incidence rates in any one race should be statistically analyzed if really significant. The race with the most population or the race more accessible to testing could show a higher incidence or prevalence rate.
- 8) As stressed in the seventh point of concern, there would be more housewives with HIV than commercial sex workers (CSW) because the numbers of housewives outnumber commercial sex workers and many CSW [4] are wrongly tabulated as housewives. We would like to cite an example here to highlight an interesting observation. We observed that the ratio of housewives to CSW among HIV cases were 5: 1 whereas the ratio of housewives to CSW among the AIDS cases were 7: 1. This could be due to the fact the number of active CSWs drop after they are afflicted with AIDS.
- 9) Male to female ratio will always be greater in the males as long as the number of females who volunteer for testing remains abysmally low. Most cases are identified during routine screening of arrested drug users, patients with sexually transmissible infections (STIs), tuberculosis, blood donors, truck drivers, and fisherman, all of whom are predominantly male.
- 10) The data from routine screening, especially among patients with sexually transmissible infections and drug users, may under or over estimate actual HIV prevalence. It may be underestimated because most people with STI go to private doctors and many cases may not be reported [5]. It may be overestimated because people who may have been tested before may be included again.
- 11) The advance in technology and the easy availability of sensitive screening tests will trace more cases than before, thus declaring an increase in the incidence of HIV should be done with utmost caution.

During the mid-to-late 1990s, advances in treatment slowed the progression of HIV infection to AIDS and led to dramatic decreases in deaths among persons with AIDS. The number of deaths of persons with AIDS fluctuated from 2001 through 2005, but the number of AIDS cases diagnosed during that same period increased [6]. The reasons for the increase in the number of AIDS diagnoses are unclear but may be due to increased emphasis on testing; the fact that more people are living with HIV and thus are experiencing the development of AIDS; and technical issues in the statistical process used in estimating the number of AIDS diagnoses. Descriptive epidemiology may be sensational whereas analytical epidemiology makes sense.

The existing HIV prevalence data for specific population subgroups, determination of the high-

risk groups for HIV, the number of people who are routinely screened, the migration factor, the male to female ratio of HIV, prevalence of HIV among prenatal women and children, deaths due to AIDS, health care facilities and case detection tools are all important parameters which regulate HIV/AIDS data.

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