CHAPTER VI

CONCLUSION

It is the first study of the parametric distribution fitting in HIV incubation time of Keralite and weibull 2 distribution is the best fitted distribution. In our study mean incubation time of HIV is 4.4 years; the progression of disease in patients infected with HIV in Kerala seems to be rapid. This is most likely to be due to late recognition of AIDS-related conditions in the early phase of an epidemic and delayed medical care for patients. This study reveals that back-calculation method is a powerful tool to estimate the cumulative AIDS cases of Kerala and it is having a decreasing trend. Curve fitting method is the best method when incubation time distribution is unknown. Quadratic model is the best fitted model for the forecasting of adult and children HIV cases of India and it is having a declining trend.

6.1 RECOMMENDATIONS

It is well known that HIV/AIDS is a fatal epidemic and effective medicines are not yet discovered, hence active precautionary measures have to be taken with utmost care against the spread of the epidemic. In order to determine the current levels and trends in this epidemic, best possible information is extremely necessary. Accurate information on incidence and prevalence is not possible now due to stigma of the disease. The use of statistical modelling approaches makes a valuable contribution in order to develop better understanding of the levels and trends in the HIV epidemic and the limited information based on the estimates.
Estimates of the total number of prevalent HIV infections attributable to the major routes of infection make an important contribution to public health policy. They can be used for the planning of healthcare services and for contributing to estimates of the future numbers with severe HIV infection used for further planning of the programmes.

6.2 FURTHER WORK

Subject to data availability, it may be worthwhile to construct and fit stratified models describing the behaviour of the epidemic by gender and age. The reason behind this thinking is that the risk of HIV infection or the infection intensity varies by sex and age. HIV prevalence differs by district and geopolitical zone, therefore, models representing the infection curve for each of the district or geopolitical zones can be revealing.

Ecological analysis may yield better results if information on the ecological covariates were available at the lower levels of aggregation. This is because data at individual level contain much more information than zone aggregated data. Further research may seek to evaluate the model using data at lower hierarchical levels. Also, it may be possible to study the changes in the trend of the epidemic over time by fitting a spatiotemporal model that estimates the time effect on HIV prevalence rates in different parts of the state.

The uncertainty surrounding the incubation period distribution suggests the need to explore methods that allow for additional information known about the epidemic to be entered into the model. Bayesian approaches might be helpful in
this regard as they allow for formal treatment of uncertainty and inclusion of extra information.

Sexual networks models may be developed using some survey outcomes for some districts in the state. To do this effectively, further information on the size of each category of the infective, at-risk and not-at-risk populations; the extent of mixing between the susceptible and the infective, the partner exchange rate, concurrent partners, probability of infection per sexual contact and other behaviour change parameters.