Basic Research

Consistent satisfactory performance of Cyflow users in national CD4 proficiency testing program conducted in India

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Introduction

Although viral load testing plays a primary role in making therapeutic decision in the management of people living with HIV (PLHIV), importance of CD4 lymphocyte count estimation cannot be undermined as it plays crucial role in monitoring of disease progression and initiation of prophylactic therapies. ICMR-NITVAR conducts proficiency program for ensuring quality and accuracy of the CD4 estimation carried out under national AIDS and STD control programme covering the entire geographic area of India. This study was conducted to assess the trend of performance observed across commonly used CD4 testing machines in proficiency testing (PT) rounds over past 2 years.

Methodology

ICMR-NITVAR runs PT program for CD4 testing Laboratories in India with more than 450 public and private laboratories enrolled in it. PT rounds are conducted twice in a year in which two indigenously stabilized blood samples are distributed to the participating laboratories. Algorithm A using robust analysis was used to analyse PT data. Z scores were used to assess the performance and the score of with +/-2 was considered to be satisfactory.

Results:

Two commonly used CD4 machines in the program include Cyflow and PIMA. Satisfactory performance was reported by more than 90% of Cyflow participants in past four rounds while 54.54% to 82% of PIMA participants showed satisfactory performance. Coefficient of variation of results reported by Cyflow users varied from 2.98 to 8.44% while that for PIMA users was more than 20%. More than 92%FACS Presto users participated in the last two PT round also showed satisfactory performance with CV varying from 2.78 to 6.64%.

Conclusion:

Trend monitoring of results reported by CD4 proficiency testing participants indicated consistent performance of cyflow as well as FACS Presto users while higher unsatisfactory performances by PIMA users indicated a need for further investigating reasons for the failures.