

Improving Biosafety in Performing Haematology Practicals

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Sir,

At present hematology practicals in India are performed by medical, dental and paramedical students. Mouth pipetting is done in hematology practicals and primary health centres and small hospitals to do hemoglobin determination, total red blood cell count (total RBC count), total white blood cell count (total WBC count) and platelet count.

The physiology practical manuals describe the use of Haemoglobin pipette, WBC pipette and RBC pipette.^[1-4] The pipette for haemoglobin determination has a rubber tubing and mouth piece to help in collecting required amount of blood. The pipettes for Total WBC count and Total RBC count have glass bulb for mixing blood with dilution fluid and rubber tube is attached to pipette with mouth piece to collect the blood sample and dilution fluid.

Recently we have shown that haemoglobin determination, Total WBC count and Total RBC count, can be done with haemoglobin pipette only without mouth pipetting and blood sample is collected with the help of haemoglobin pipette with rubber bulb.^[5] Dilution is done with the help of glass bottle top dispenser. It is easier to do mixing in a test tube. This helps to get accurate results for RBC count, WBC count and platelet count as 20 microliters of blood sample is collected and dilution (with glass bottle top dispenser or 1ml and 5ml syringes) is done in test tube (dilution for WBC count is 1: 21, dilution for RBC count and platelet count is 1: 201) Charging errors are also minimal as glass capillary is used for charging the Neubauer chamber

According to Laboratory biosafety manual of World Health Organization mouth pipetting should be avoided and pipetting aids must be used.^[6]

This method is easy and gives better biosafety as it avoids mouth pipetting (rubber bulb is used as pipetting aid) for collection of blood sample and diluting fluid. This method has accurate dilution and minimal charging errors.^[5]

Hence we suggest that this new method can be used in performing haematology practicals in physiology and also in primary health centres and small hospitals.

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