



Donor selection in blood safety - How serious we are?

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DONOR SAFETY

* Continuous efforts for **zero risk blood transfusion** : formidable challenge globally despite application of new laboratory blood testing technologies.

Predonation blood donor screening : crucial role in minimizing collection of blood from 'unsafe' donors.





Aim

Review and innovate various approaches to ensure safe predonation.





Routine Screening

- All donors must meet specific eligibility criteria outlined by Food and Drug Administration.
- Donor weight, hemoglobin , fitness by medical history and physical examination etc
- Now few steps further required





KING George Medical University

- Annual collection of 50,000 blood units in the department of transfusion medicine
- Largest blood bank area in the country
- Caters to population all over the state (State of Art Model Blood Bank)
- Almost all the specialities and superspecialities present (Primary,secondary and tertiary)
- All socioeconomic status patients and donors



FREQUENT OBSERATIONS MADE DURING PREDONATION SCREENING

- **False history by the donors encourages them to make false statements at different days or at different times on the same day**
- **Professional donors**
- **Donors unaware of their own status. Lack of regular investigations in the country places donor as well as recipient at risk.**





- **Reactive Donors. Lack of computerization places recipient and personnel to unnecessary risk.**
- **Donors deferred because of reactive test results to infectious diseases, such as syphilis, HIV, hepatitis and HTLV**



Innovations and efforts to overcome the hurdles

1

- **Biometrics**

2

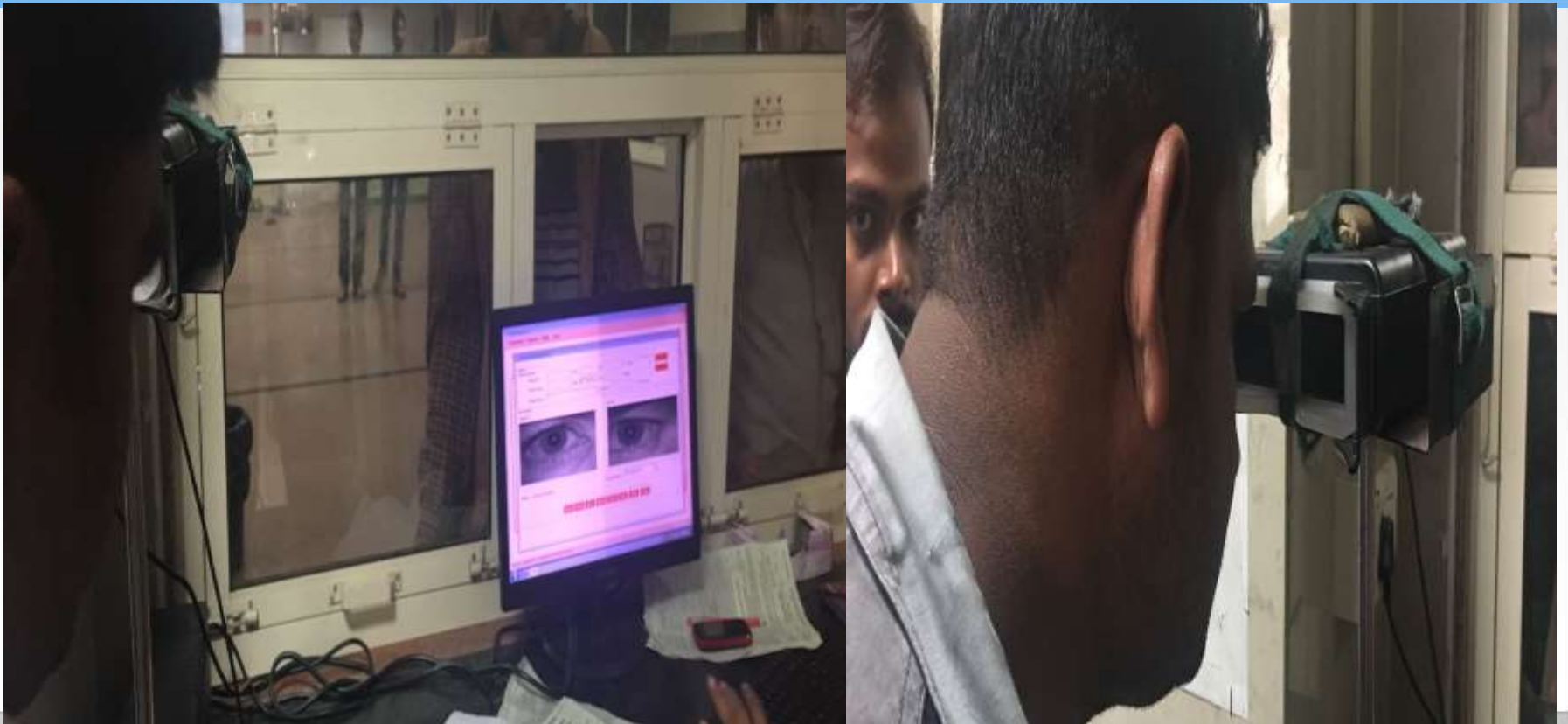
- **Alcohol Breath analyser**

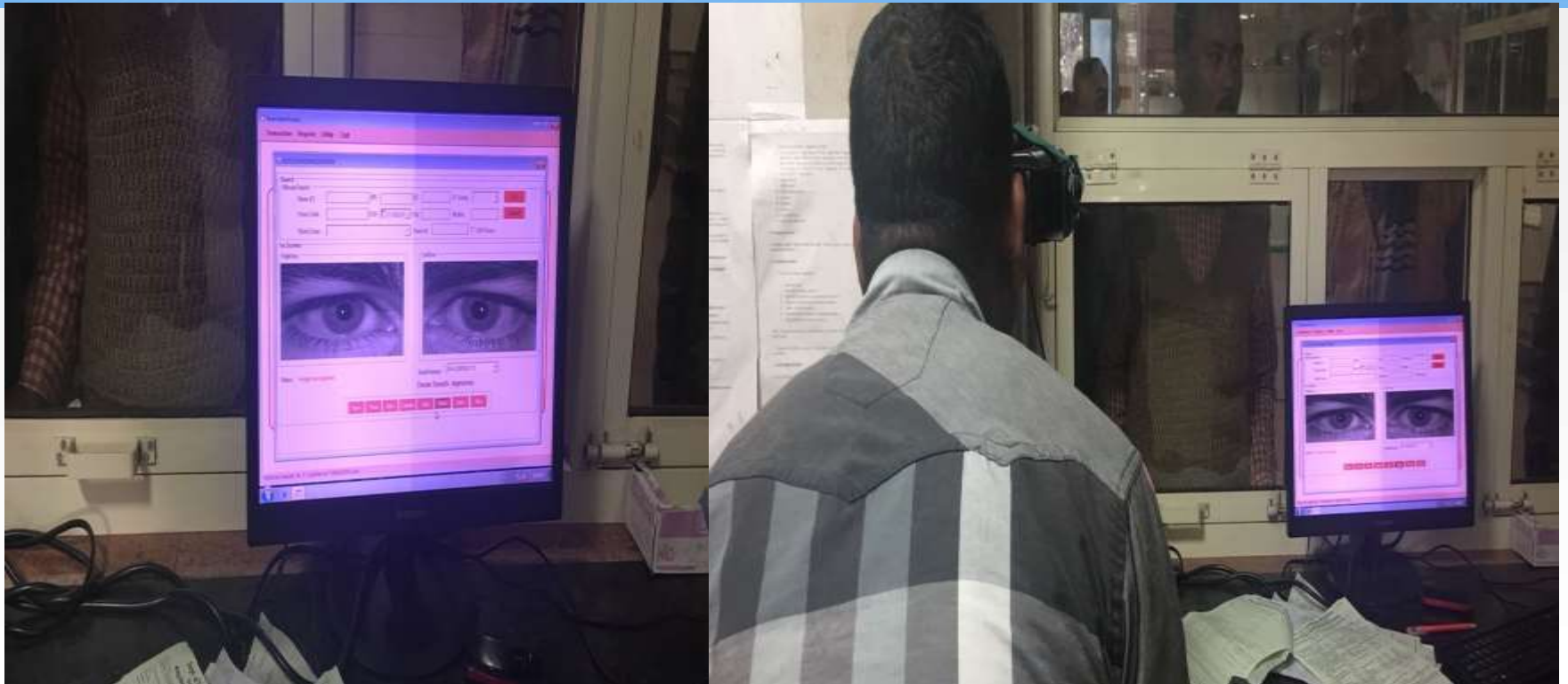
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- **Cell count by finger prick method**



BIOMETRICS of the DONORS







Advantages

- donors who come for repeat donation before 3 months,
- permanent deferral history before
- reactive in our screening techniques
- professional donor previously
- false history which donors attempt to hide during subsequent donations. patient.





Observations

- Total donors screened for biometrics : 1 lac 20,000
- Number of donors deferred – 10,000

Reasons for deferral

- Anemia – 29 %
- Underweight- 25%
- Age – 3%





- jaundice – 3 %
- Alcohol intake – 4%
- Drug intake : 4%
- Repeat donations -10 %
- Professional donors – 5 %
- Previous permanent deferral history -12%
- Others : 5%





- **Deferral of these donors improved the quality of our blood collected, lowered the reactivity rate as well as ensured safer supply to the patients**





Alcohol Breathalyser





Routine

- Missed many donors with alcohol intake or deferred donors with minimal intake of alcohol
- frequent cause for deferral specially in younger age groups more so in voluntary blood donation camps.



Advantages

- helped us to identify donors who have taken alcohol which gave proof of their status as well as avoided frequent aggressions which previously used to occur during medical fitness specially with suspected professional donors



Blood Cell count by Finger prick method





Advantages

- an eye opener .
- **fingerprick for hemoglobin testing used for seeing blood counts of donors**



- **29 % of donors had low hemoglobin**
- **21% : low platelet counts**
- **14% : high total leucocyte count**
- **4% : low leucocyte count**
- **Total samples tested : 50,000**





- Donors with low platelet counts were allowed to donate but no platelet was prepared from their donation ,
- This improved the quality of platelets being supplied to patients as well as made the donor aware of their health status.
- This motivated the donors and improved their trust in the system



Above techniques helped us to rethink whether the basic minimum parameters which we perform routinely on blood donors as a part of predonation screening are enough and how best we can further improve our system to make blood more safe .



“ It isn't all over; everything has not been invented; the human adventure is just beginning.”

— Gene Roddenberry



THANK YOU