

Decoding Deferral Patterns: A 9-Year Retrospective Study from a tertiary care center of North India.

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BACKGROUND AND OBJECTIVES

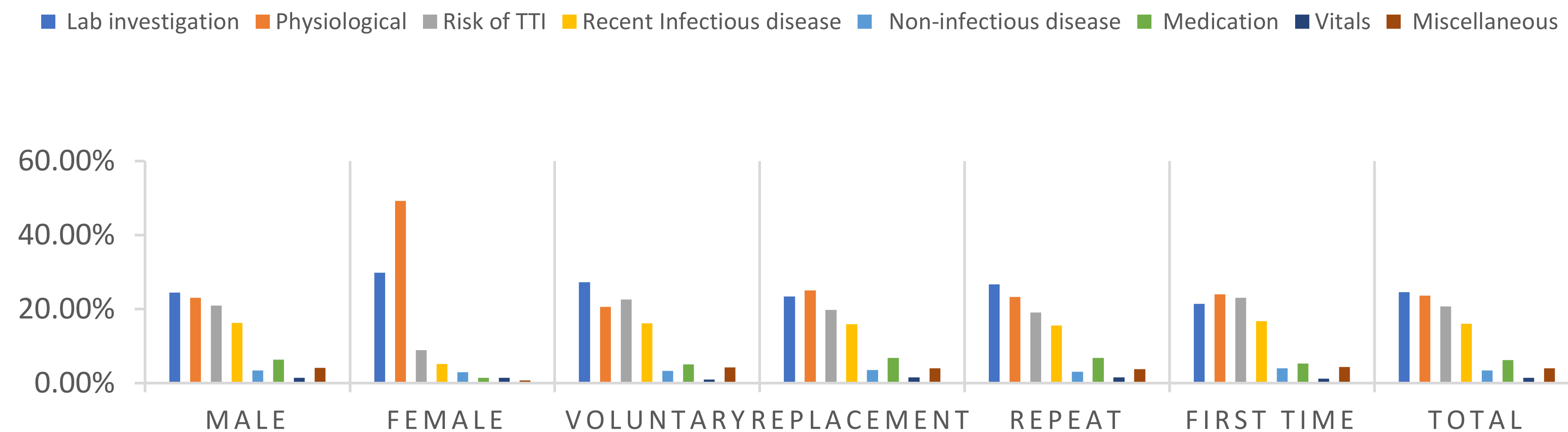
Platelet donor selection criteria should be periodically evaluated to modify any criteria to maintain balance between safety and sufficiency.

To analyze demographic profile of deferred donors and attribution of different causes of donor deferral.

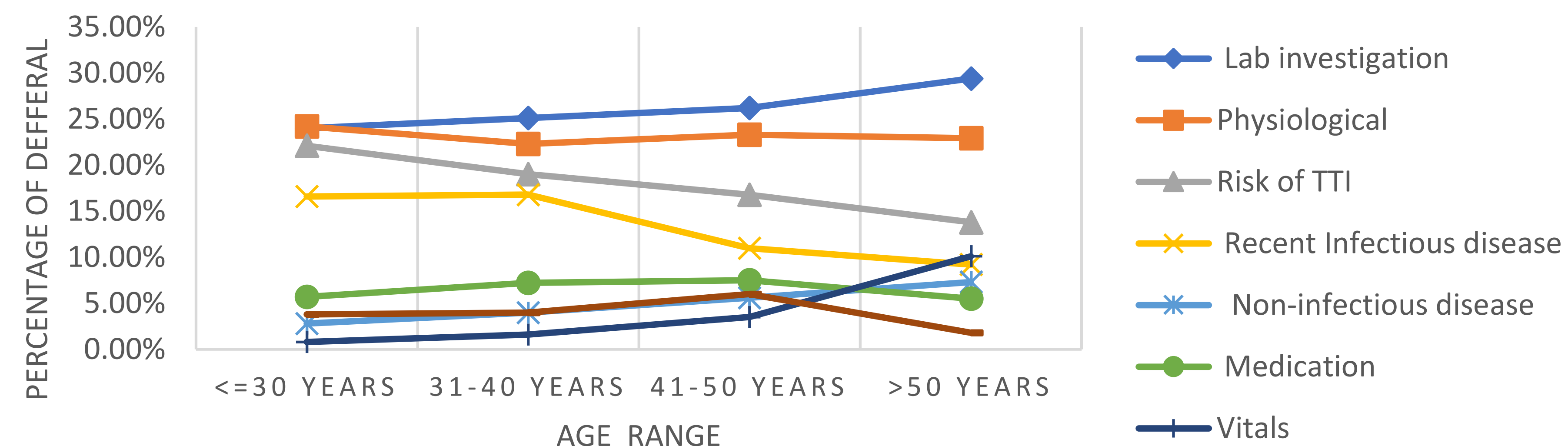
MATERIAL & METHODS

Retrospective study of platelet donor deferral was conducted over 9 years (2012-2020). Donors for SDAP were screened as per SOP based on donor selection criteria laid down in Drug and Cosmetic Act of 1940 & Rules of 1945 and its time-to-time amendments.

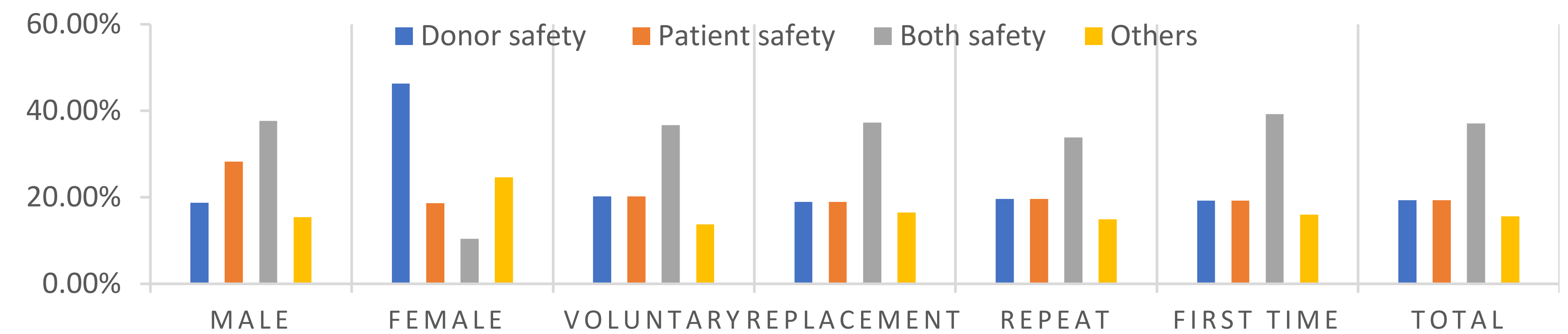
CAUSES OF DEFERRAL



CORRELATION BETWEEN DONOR AGE AND PERCENTAGE OF UNSUITABILITY DUE TO VARIOUS CAUSES



BASED ON SAFETY



RESULTS

Out of a total of 24505 screened platelet donors, 5871(23.9%) were deferred. Out of 24263 analyzed males, 5737 (23.6%) were deferred while out of 242 females, 134 (55.3%) were deferred. The deferral rate was significantly ($P<0.0001$) higher among females compared with males. Maximum deferred donors were of ≤ 30 years of age (62.9%) ; replacement (62%) and repeat donors (60.2%).

Most of the donors were deferred temporarily (81.6%), if a donor was a repeat donor, then the odds of being temporarily deferred were 1.4 times ($OR=1.37$; 95% $CI=1.20-1.57$; $p<0.001$), and the odd of being permanently deferred was 0.72 times ($OR=0.72$; 95% $CI=0.63-0.82$; $p<0.001$) as compared to first time donor. Poor venous access (15.5%) followed by history of jaundice/ hepatitis (13.6 %), low platelet count (11.7 %), low hemoglobin (8.8%) were individual most common causes of deferral. On deferral cause categorization 3 most common categories for deferral were abnormal lab investigations (24.6%) followed by physiological conditions (23.6%) and risk of TTI (20.7%). Percentages of deferral due to chronic non-infectious disease, lab investigations, and abnormal vitals increased as the donor's age increased. Among abnormal vitals, hypertension accounted for 84.5%. This reflects that as age increases, the chances of chronic non-infectious disease and hypertension increase. Percentages of deferral due to the risk of TTI and infectious diseases decreased as the donor's age increased. Based on the safety deferrals were categorized into 4 groups – donor safety, patient safety, both safety and miscellaneous. Most common reasons for donor safety were low hemoglobin (42.7%), underweight (21.5%) and last donation within deferral period (12.2%); for patient safety were risk of TTIs except surgery (70.5%), ABO incompatibility (13.9%) and vaccinations (4.0%); for both safety were various recent infections (43.2%), low platelets (31.64%) and medications (16.4%); and for miscellaneous was poor venous access (99.5%). It was found that a maximum (37.1%) of donors were deferred for the safety of both. Among deferred females, the odds of being deferred for donor safety was 3.7 times ($OR=3.73$; 95% $CI=2.64-5.28$; $p<0.0001$), the odds of being deferred for patient safety was 0.6 times ($OR=0.58$; 95% $CI=0.37-0.90$; $p=0.016$), for the safety of both was 0.2 times ($OR=0.19$; 95% $CI=0.11-0.33$; $p<0.0001$) for miscellaneous reasons was 1.8 times ($OR=1.79$; 95% $CI=1.20-2.68$; $p=0.004$) as compared to the deferred male donors. Among deferred replacement donors, the odds of being deferred for miscellaneous reasons was 1.2 times ($OR=1.24$; 95% $CI=1.06-1.45$; $p=0.006$) as compared to voluntary donors. Among deferred repeat donors, the odds of being deferred for patient safety was 0.7 times ($OR=0.74$; 95% $CI=0.66-0.83$; $p<0.001$) and the odds of being deferred for the safety of both was 1.3 times ($OR=1.26$; 95% $CI=1.13-1.40$; $p<0.001$) as compared to first-time donors.

CONCLUSION

This comparative analysis of donor deferral underscores the importance of strict adherence to donor selection guidelines to maintain a safe and reliable SDAP supply. Educating and counselling temporarily deferred donors about their deferral period, investigating and treating the causes of deferral, and encouraging them to return can significantly expand the donor pool. BTS should provide information and education material on how to improve health parameters that led to deferral, such as dietary advice for low Hb or lifestyle changes to improve overall health. By implementing these strategies, blood centres can ensure a steady supply of safe and healthy blood products, ultimately benefiting the entire healthcare system.