

Incidence and Pattern of Transfusion Reactions in a Tertiary Care Hospital



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Dear Sir,

We read with interest the article by Gupta et al. on “Incidence and pattern of transfusion reactions (TRs) in a tertiary care hospital.” The study provides useful institutional data; however, certain observations warrant critical appraisal.

This study has reported an overall incidence of transfusion reactions (TR) as 0.18%, which predominantly consists of febrile nonhemolytic transfusion reactions (FNHTRs) with 51%.¹ Incidences appears notably lower in comparison with similar contemporary data in Indian literature, as observed in a 2025 multiple-center analysis as 0.71%² and in a tertiary center in Central India as 0.27%,³ highlighting potential underreporting biases inherent in retrospective designs reliant on incident forms.

Methodological limitations undermine the findings’ robustness. Classification by a single blood transfusion officer as per “national blood transfusion guidelines,” invites misclassification, because FNHTRs and allergic reactions share common presentation (febrile 31.8%, chills 28.7%, rashes 27.4%),¹ in contrast with more focused classification practices as in ISBT (International Society of Blood Transfusion) guidelines, giving prime importance to laboratory-confirmed events in hemovigilance.³

Exclusion of delayed hemolytic TRs (DHTR) from acute totals, despite 100% thalassemia association ($p = 0.001$), inflates the “acute” focus while ignoring chronic risks.¹

Statistical inferences merit careful evaluation; as whole blood’s highest risk (3.84/1000 units, $p = 0.038$) differs significantly from that of packed RBCs (2.85, $p = 0.001$), yet SDP’s (single donor platelets) nonsignificance ($p = 0.571$) may reflect low power, due to uneven unit distribution rates, unadjusted for potential variables of certain demographic characteristics (median age 45–60 years, male-to-female ratio 1.3:1).^{1,4}

Global benchmarks estimate 0.2–10% TRs, often underreported due to awareness gaps, as expressed here.^{3,5}

Prospective hemovigilance with mandatory reporting could enhance accuracy, aligning with WHO recommendations for transfusion safety audits.⁶ Overall, while this study adds valuable data, it also highlights the need for strengthened hemovigilance, wider adoption of leukoreduction and standardized transfusion protocols to improve patient safety and accurately capture transfusion-related adverse events. This commentary underscores the need for rigorous validation in future TR surveillance for effective clinical practice.

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