

**CHARACTERISTICS OF BLOOD TRANSFUSION PATIENTS WITH
INCOMPATIBLE CROSSMATCH RESULTS AT THE BLOOD DONOR UNIT
OF PMI LUMAJANG REGENCY IN 2024 – 2025**

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ABSTRACT

Background: Crossmatch testing is a crucial step to ensure compatibility between donor and recipient blood before transfusion to prevent transfusion reactions. These reactions can be caused by incompatible crossmatch results, indicating a mismatch between the patient's and donor's blood. Incompatibility types include major, minor, auto-control (AC), and Direct Coombs Test (DCT). **Objective:** This study aims to analyze the characteristics of blood transfusion patients with incompatible crossmatch results using the gel method at the Blood Donor Unit of PMI Lumajang Regency. **Methods:** This study utilized a descriptive quantitative design with a sample of 101 incompatible patient data from January 2024 to June 2025. **Results:** The highest incompatibility results based on gender were found in females (77 patients, 76%), adults aged 19-44 years (31 patients, 31%), blood type O+ (42 patients, 42%), PRC components (99 patients, 99%), and anemia diagnosis (84 patients, 83%). The most frequent incompatibility type was positive major, minor, and auto-control (74 patients, 73%), with a history of transfusion (77 patients, 76%) and positive DCT (81 patients, 80%). **Conclusion:** Based on patient characteristics, the most common type of incompatibility is positive major, minor, and auto-control. **Suggestions:** Further research should include specific antibody identification to determine the underlying causes of incompatibility.

Keywords: Crossmatch, Incompatible, Blood Transfusion, Patient Characteristics, Direct Coombs Test.