

**THE EFFECT OF LONG STORAGE BLOOD DONOR PACKED RED CELL  
ON FREE HEMOGLOBIN PLASMA LEVELS**

DIAH NURFALAH  
NIM. P17334117083

**ABSTRACT**

*In-vitro blood storage is an effort to keep blood component changes during storage. Hemolysis tends to happen with higher temperatures and storage time, shown with hemoglobin in donor plasma during transport, storage, or other mistakes occur during blood donating. Considering this situation, many researchers researching in-vitro blood storage with different time storage. Some conditions need to be fulfilled during in-vitro blood storage to keep the quality of blood donor and plasma hemoglobin as a benchmark used. The method of this study is a literature study that focuses on the effect of blood donor storage time on the plasma hemoglobin level. Data collected from 5 journals (international and local) accessed from google scholar. The result of this study shows that there's a significant elevating of plasma hemoglobin in blood donors, along with the storage of blood donors. The results of the literature study showed that there was a significant increase in plasma hemoglobin concentration in donor blood along with the duration of donor blood storage. Based on the study of literature obtained by the result of the increase in the free hemoglobin levels which is stored for 28 days ranging between 0.3 – 0.26 g/dL and for 39 days with an average value of 25.9  $\mu$ M/L in CPDA solution. Then there is an increase in free plasma hemoglobin in PRC stored for 2 days ranging from 3.7 – 45.5 mg/dL, for 4 days with an average rate of 11.6  $\mu$ M/L, during 26 days ranged from 46.5 – 151.5 mg/dL, during 39 days with an average rate of 81.0  $\mu$ M/L, and for 40 days ranged between 49.0 – 413.9 mg/dL in ADSOL solution.*

**Keywords : Free Plasma Hemoglobin, Blood Donor, Storage Time**