The prevalence of anemia in the world is very high. In developed countries, 20% of pregnant women experience iron deficiency anemia, while 50% occur in developing countries. Anemia is often called “Potential Danger to Mother and Child” because it gives a bad influence on the mother and the fetus. The purpose of this study is determining the relationship of hemoglobin levels among maternal mothers with the duration of labor stage II at Puskesmas Dupak Surabaya in 2016.

Design of the research was Cross Sectional study with a research population is all inpartu mothers in Puskesmas Dupak Surabaya from April to May 2017. The data were taken with Accidental Sampling which has fulfilled the criteria of inclusion and exclusion to become the research sample. The type of data used in this study is the primary data and research instruments using data collection sheets, partograf and gauge hemoglobin levels. The data were analyzed by Fixer’s Exact and Contingency Coefficient C.

There were 22 mothers (66.7%) who got normal hb levels, while 11 people (33.3%) the maternal mothers with anemia. There were 45.45% who had abnormal second stage and another 54.54% had normal second stage from the 11 mothers of anemia. There is a relationship between the hemoglobin level with duration of second stage \( p = 0.027 \) and \( C = 0.387 \), it means there is low relationship between hemoglobin levels and duration of second stage.

Keywords : Hemoglobin levels, duration of second stage