

Perbedaan Kadar Hemoglobin pada Ibu Hamil Trimester I dan III di Puskesmas I Denpasar Timur

Differences in Hemoglobin Levels Among Pregnant Women in the First and Third Trimesters at Community Health Center I in East Denpasar

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ABSTRAK

Latar Belakang: Kadar hemoglobin pada ibu hamil dapat menurun seiring bertambahnya usia kehamilan akibat peningkatan volume plasma yang lebih besar daripada massa eritrosit. Kajian yang membandingkan perubahan kadar hemoglobin trimester I dan III pada responden yang sama masih terbatas. **Tujuan:** Mengetahui perbedaan kadar hemoglobin pada ibu hamil trimester I dan III di Puskesmas I Denpasar Timur. **Metode:** Penelitian kuantitatif dengan desain *observasional analitik* dan pendekatan longitudinal komparatif berpasangan dilaksanakan pada Maret 2026. Sampel terdiri atas 30 ibu hamil yang dipilih menggunakan accidental sampling. Data trimester I diperoleh dari rekam medis, sedangkan data trimester III diperoleh melalui pemeriksaan darah vena menggunakan *Hematology Analyzer Micros ES-60*. Data dianalisis secara deskriptif, diuji normalitas dengan *Shapiro–Wilk*, dan dilanjutkan menggunakan *Paired Sample t-test*. **Hasil:** Rata-rata kadar hemoglobin trimester I sebesar 12,85 g/dL dan seluruh responden berkategori normal. Pada trimester III, rata-rata kadar hemoglobin sebesar 10,38 g/dL; sebanyak 23 responden berkategori rendah dan 7 responden berkategori normal. Rata-rata penurunan kadar hemoglobin sebesar 2,47 g/dL. Data berdistribusi normal dengan *p-value* 0,053, sedangkan *Paired Sample t-test* menunjukkan $p < 0,001$. **Simpulan:** Terdapat perbedaan signifikan kadar hemoglobin antara trimester I dan III. Pemantauan hemoglobin secara berkala diperlukan untuk mendukung pencegahan anemia selama kehamilan.

Kata kunci: kadar hemoglobin, ibu hamil, trimester I, trimester III, anemia

ABSTRACT

Background: Hemoglobin levels in pregnant women may decrease as pregnancy progresses due to an increase in plasma volume that exceeds the increase in red blood cell mass. Studies comparing changes in hemoglobin levels between the first and third trimesters in the same participants remain limited. **Objective:** To determine differences in hemoglobin levels among pregnant women in the first and third trimesters at Community Health Center I in East Denpasar. **Methods:** A quantitative study with an analytical observational design and a paired comparative longitudinal approach was conducted in March 2026. The sample consisted of 30 pregnant women selected using accidental sampling. First-trimester data were obtained from medical records, while third-trimester data were obtained through venous blood tests using the Micros ES-60 Hematology Analyzer. The data were analyzed descriptively, tested for normality using the Shapiro–Wilk test, and further analyzed using a paired-sample *t-test*. **Results:** The average hemoglobin level in the first trimester was 12.85 g/dL, and all respondents were classified as normal. In the third trimester, the average hemoglobin level was 10.38 g/dL; 23 respondents were classified as having low levels and 7 were classified as normal. The average decrease in hemoglobin levels was 2.47 g/dL. The data were normally distributed with a *p-value* of 0.053, while the paired-sample *t-test* showed $p < 0.001$. **Conclusion:** There is a significant difference in hemoglobin levels between the first and third trimesters. Regular monitoring of hemoglobin levels is necessary to support the prevention of anemia during pregnancy. **Keywords:** hemoglobin levels, pregnant women, first trimester, third trimester, anemia