

## GFR and Blood Lead Levels in Gas Station Workers Based on $\delta$ -ALAD Gene Polymorphisms

<b>Title</b>	GFR and Blood Lead Levels in Gas Station Workers Based on $\delta$ -ALAD Gene Polymorphisms
<b>Author Order</b>	of
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<b>Abstract</b>	<p>Introduction: Lead is a well-known toxic agent that makes an organ's failure. Lead serum itself is influenced by <math>\delta</math>-ALAD gene polymorphisms (Amino Levulinic Acid Dehydratase). <math>\delta</math>-ALAD gene encodes an ALAD enzyme used for heme synthesis. The Characteristic of gene polymorphism may result in Glomerulo Filtration Rate (GFR) value as mark of renal failure. The goal of this study was to find correlations between blood lead levels with GFR in terms of <math>\delta</math>-ALAD gene polymorphisms. Method: A cross-sectional design was used to perform this research. Thirty-eight gas stations workers in Banyumas were recruited in this study. <math>\delta</math>-ALAD gene polymorphisms were characterized using PCR-RFLP method, while lead serum levels were quantified by Atomic Absorption Spectrophotometer (AAS). In addition, Creatinin serum was done with a spectrophotometer and GFR value was formulated by means of the Schwartz method. Result: The study showed that the proportion of ALAD genotype for ALAD 1-1, 1-2 and 2-2 were 94.7%, 5.3%, and 0% respectively. The mean of serum levels in homozygous 1-1 was 15.94 ppb and heterozygote 1-2 was 1.15 ppb. GFR of participants ranged from 71.11 mL/min to 185.20 mL/min with a mean of 117.34 mL/min. There was no correlation between serum Pb and GFR (<math>p = 0.19</math>). Study also could not determine the correlation between GFR and ALAD gene Polymorphism. Discussion: Study then concluded that there was no correlation between blood lead levels in the GFR on each <math>\delta</math>-ALAD genotypes. Keywords: Lead intoxication, GFR, <math>\delta</math>-ALAD, gas station workers</p>
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