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TESIS
KUAT UJI BEBERAPA UJI NORMALITAS

PENELITIAN TERAPAN

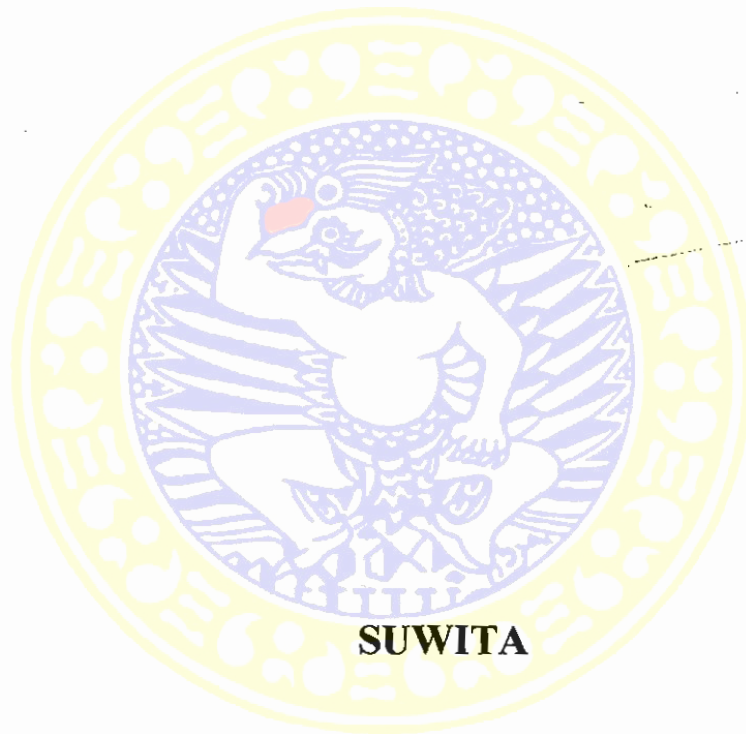


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TESIS

Untuk memperoleh Gelar Magister
dalam Program Studi Ilmu Kesehatan Masyarakat
Peminatan Biostatistika
pada Program Pascasarjana Universitas Airlangga



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UNIVERSITAS AIRLANGGA
SURABAYA**

Tanggal 17 Januari 2002

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ABSTRACT

The objective of this study was to investigate power of test $(1-\beta)$ of several normality tests on different variables and sample size, i.e (1) small sample of discrete variable ($D|n_k$); (2) small sample of continuous variable ($C|n_k$); (3) large sample of discrete variable ($D|n_b$) and (4) large sample of continuous variable ($C|n_b$).

The sizes of small sample was 5, 9, 13, and that of large sample was 31, 40, and 50. Sample size repetition in small and large sample either in discrete or continuous variables was intended to determine power of test consistency in three normality test, i.e. Kolmogorov-Smirnov (K-S test), Shapiro-Wilk (S-W test), and Anderson-Darling (A-D test).

The case for small sample discrete variable was leucocyte count per mm^3 , that for small sample continuous variable was birth body weight (g), for large sample discrete variable was trombocyte count per cmm, and for large sample continuous variable was birth body length (cm). Sample size in small sample and large sample either in discrete and continuous variables was first subjected to normality test, then the power of test was determined.

The results showed of that the three normality tests on small sample discrete variable, small sample continuous variable, large sample of discrete variable, and large sample of continuous variable (except for $n = 31$ and 50) indicated similar results, i.e., normal distribution of data. However, in large sample of continuous variable for $n = 31$ and $n = 50$ A-D test showed different results, in which data was not normally distributed due to the presence of a large number of ties data. The effect of the number of ties data on A-D test was very apparent when the number was reduced one by one by stages.

The results of the power of test on three normality tests showed that A-D test had the highest power of test, followed by S-W test and K-S test, in small sample discrete variable, small sample continuous variable, and large sample discrete variable, as well as large sample continuous variable.

Keywords : Power of test, normality test, A-D test, S-W test, K-S test, discrete variable, continuous variable, small sample, large sample