ABSTRACT

Diana Fitriani, NIM: 1534020, 2015. The Differences in the zone of inhibition of gentamicin antibiotics against *Escherichia coli* bacteria at incubation temperatures 33ºC and 37ºC.The Research of DIV Medical Laboratory Technology Faculty of Health Sciences, Katolik Musi Charitas University Palembang.

Background: One of the growth media of *Escherichia coli* bacteria is influenced by temperature. According to WHO the optimal temperature for the growth of bacteria 35ºC, at higher temperatures all cultures will appear sensitive. According to CLSI the optimum temperature for sensitivity of Escherichia coli bacteria is 35 ± 2ºC. This study was conducted to determine the differences in the zone of inhibition of gentamicin antibiotics against *Escherichia coli* bacteria at incubation temperatures 33ºC and 37ºC.

Method: This study is an analytical observation study with comparative sectional crosss, this study in the Microbiology Laboratory, Faculty of Health Sciences, Katolik Musi Charitas University. The sample of this study was the *Escherichia coli* culture derivative that fulfilled the inclusion and exclusion criteria. Bacterial derivatives of *Escherichia coli* which have been planted on Muller Hinton In order to add gentamicin antibiotics with the Kirby-bauer method. Then each was incubated at a temperature of 33ºC and 37ºC and incubated for 24 hours. The results of the zone of inhibition were measured in mm. Then analyzed using the Wilcoxon test with a confidence level of 95%.

Result: The results show a minimum median value of 24 and, a maximum of 25 at a temperature of 33ºC and at a temperature of 37ºC. The results of the statistical test showed that there was no difference (p = 1,000) between the zone of inhibition of gentamicin antibiotics against Escherichia coli bacteria at temperatures of 33ºC and 37ºC.

Conclusion: There was no difference in zone of inhibition of gentamicin antibiotics against *Escherichia coli* bacteria at incubation temperatures 33ºC and 37ºC.

Keywords: Zone of inhibition, incubation temperature, antibiotics.

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