ABSTRACT

Putri Agustin Arpa, NIM : 1534049, 2019. The different number of *Staphylococcus epidermidis*colonies on *Nutrient Agar*medium dissolved by distilled water and bottled-drinking water. Bachelor Thesis. DIV Medical Analysis Study Program, Faculty of Medical Science, Universitas Katolik Musi Charitas Palembang.

Background : The regrowing process is conducted to investigate the contamination of *Staphylococcus epidermidis*. The inoculation in the specific culture media can be used to regrow the microorganism. *Nutrient agar*is one of the culture medium used to inoculate. In the preparation of microbiology medium, distilled water is the most-used solvent due to its purity and hygienist. However, pure distilled water is sometimes hard to find and relatively has a high price. The alternative solvent such as bottled-drinking water should be made to substitute the use of distilled water as the solvent. The distilled water and bottled-drinking water have a similar characteristic and both types of water are obtained by almost similar technology process such as filtration and sterilization. Moreover, the small amount of mineral which possibly contains in the bottled-drinking water is safe for microorganism cultivation and it also can not contaminate the culture medium. Thus, the substitution of distilled water with bottled-drinking water is possible as the alternative solvent. The present research aims to investigate the different number of *Staphylococcus epidermidis* colonies regrowth in *nutrient agar* which dissolved in distilled water and bottled-drinking water.

Method : The present research is categorized as the pre-experiment with comparative statics study. The sample which is the pure colonies suspension of *Staphylococcus epidermidis*is diluted to 1 million times and inoculated on *nutrient agar* with a specific solvent. To investigate the effect of solvent, distilled water, and bottled-drinking water are used as the solvent. The inoculated-medium is incubated at 37^{o}C for 48 hours. After 48 hours, the number of colonies is calculated, and the obtained data is parametrically analyzed using the paired t-test.

Result: The research has been conducted for 20 times to ensure that the obtained data is repeatable. The result showed that the colonies number of *Staphylococcus epidermidis*regrowth in nutrient agar which dissolved in distilled water and bottled-drinking water is 113 and 114. The statistical analysis using *Paired Sample T-Test* supports that there is no significant difference of colonies number in nutrient agar dissolved in distilled water and bottled-drinking water.

Conclusion: The research and the statistical analysis show that there is no significant difference of colonies number in nutrient agar dissolved in distilled water and bottled-drinking water.

Keywords : *Nutrient agar*, distilled water, bottled-drinking water