# PENINGKATAN JUMLAH *STREPTOCOCCUS MUTANS* AKIBAT LATIHAN FISIK ANAEROBIK YANG BERLEBIHAN

(*INCREASED NUMBER OF STREPTOCOCCUS MUTANS DUE TO EXCESSIVE ANAEROBIC PHYSICAL EXERCISE*)

## *ABSTRACT*

***Background.*** *Physical exercise today has become a healthy lifestyle but excessive anaerobic physical exercise can lead to excessive fatigue and physical stressors which can disrupt the body's immune system, including the secretory immunoglobulin A (sIgA) in saliva. sIgA in saliva has been suggested to play an important role in protecting the oral cavity against viral infections and bacterial adherence. Low concentrations of sIgA are associated with certain disease especially caries caused by Streptococcus mutans.* ***Purpose****. The aim of this research is to determine the increasing number of Streptococcus mutans due to excessive anaerobic physical exercise.* ***Method****. This research was conducted on experimental animals (wistar rats) aged 120 days, weighing 200-300 grams. Rats were divided into 2 groups, a treatment group and a control group, and each group used 7 rats. In the treatment group, rats swam for 80% maximum long workout (1 minute 46 seconds) three times a week for two months in the tub of water as deep as 50 cm with a weight of 9% of body weight of each rat which tied at the base of the tail. In the end of treatment, dental plaque of each rat from treatment group and control group swabbed,* inserted into *the tube of liquid BHI Broth, incubated for 24 hours at 37°C, grown on TYC then examined Streptococcus mutans colonies visually.* ***Results****. There were significant differences number of Streptococcus mutans ($p<0,05$) between rats in the treatment group and rats in the control group.* ***Conclusion****. Streptococcus mutans number increased due to excessive anaerobic exercise.*

***Key words*****:** *Streptococcus mutans, secretory immunoglobulin A, excessive anaerobic exercise.*