KARIOGENITAS SUSU FORMULA BERBASIS SUSU SAPI DAN SOYA BERDASARKAN PERTUMBUHAN KOLONI Streptococcus mutans DAN PH PLAK PADA ANAK USIA 1-2 TAHUN

CARIOGENTY OF COW’S MILK-BASED INFANT FORMULAS AND SOY-BASED INFANT FORMULAS BASED ON GROWTH OF Streptococcus mutans’ COLONIES AND PLAQUE PH IN 1-2 YEARS OLD CHILDREN

ABSTRACT

Background: Dental caries is one of the most prevalent infectious diseases and has a multifactorial etiology. Caries in children often called Early Childhhood Caries (ECC) which affects about two and third of children under 3 years old. Streptococcus mutans is one of the main etiology in resulting caries. Carbohydrate, such as infant formulas, are believed to increase the number of Streptococcus mutans colonies and result in ECC. Infant formulas can be classified into two groups milk-based (cow’s milk) and soy-based infant formulas.

Objective: To find out which infant formulas that has more potential cariogenicity, whether the cow’s milk based infant formulas or soy-based infant formulas based on growth of Streptococcus mutans’ colonies and plaque pH in 1-2 years old children.

Material and methods: This experiments use post-test only group design. Plaque sample is collected from 20 children that consume cow’s milk-based infant formulas or soy-based infant formulas and is required all the criteria. Then, plaque sample is cultured on TYC agar. The number of Streptococcus mutans’ colonies were counted on agar medium. Moreover, pH plaque is measured by pH indicator paper. Kolmogrof-Smirnov Test conducted to determine normal distribution, followed by Independent T-Test for further analyze.

Results: There is no significant difference between cow’s milk-based infant formulas and soy-based infant formulas, p=0.075 (p>0.05) for Streptococcus mutans’ colonies and p= 0.673 (p>0.05) for plaque pH values.

Conclusion: Both cow’s milk based infant formulas and soy-based infant formulas have low cariogenicity as equal.

Keywords: Cariogenicity, Infant formulas, Streptococcus mutans, plaque pH.