



RESEARCH ARTICLE

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**The Effect of Coconut Water Against Decreasing Dehydration Degrees in Children
Ages 5-10 Years with Diare**

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ABSTRACT

Dehydration is a disturbance in the fluid or water balance in the body. This occurs because the water outlays more than the income (e.g. drinking). This loss of body fluid is accompanied by electrolyte balance disorders of the body. In Coconut Water contain content such as protein, fat, carbohydrate and Mineral. Mineral content which is high enough in Coconut Water that is 91% can fulfill requirement of human collapsed liquid that lost during dehydration take place. The purpose of this study is to determine the effect of coconut water to decrease degree of dehydration in children aged 5-10 years with diarrhea. The design of this study was pre-experimental by using one group pretest-posttest. In this type of study revealed causal relationships involving one group of observational subjects, before intervention and then observed again after intervention. From total of 14 respondents, before giving coconut water 9 respondents experienced Dehydration Moderate and 5 respondents experienced mild dehydration, and after giving coconut water from 9 respondents who experienced dehydration down to mild dehydration and 5 respondents experiencing mild dehydration down to no dehydration. The result of data analysis with Wilcoxon test at $\alpha = 0.05$ got the result of statistical test with significance value 0.000. Adanya Influence of Coconut water to decrease degree of dehydration in children aged 5-10 years with diarrhea in Tales Village Ngadiluwih District. Coconut water containing a lot of electrolytes can lower the degree of dehydration because by drinking coconut water can replace the electrolytes in the body lost during diarrhea.

Keywords: Coconut water, Dehydration, Children

INTRODUCTION

Diarrhea is a bowel movement with consistency of soft or fluid, it can even be water only with frequency more often than usual (three times or more) in one day (Kemenkes RI, 2011). Diarrhea can be caused by abnormal water and electrolyte transport in the intestine. The two dangers of diarrhea are death and malnutrition. Deaths due to acute diarrhea are often caused by loss of water and salt from the body, this loss is called dehydration. Around the world there are approximately 500 million children suffering from diarrhea each year and 20% of all deaths children who live in developing countries are associated with diarrhea and dehydration. Disorders of diarrhea may involve the stomach and intestines (gastroenteritis), small intestine (enteritis), colon (colitis) or colon and intestine (enterocolitis) (Wong, 2008).

According to World Health Organization (WHO) data in 2009, Diarrhea is the second leading cause of death in 5-year-old children. Globally every year there are around 2 billion cases of diarrhea with a mortality rate of 1.5 million per year. In developing countries, under 3 years on average experienced 3 episodes of diarrhea each year. Each episode of diarrhea will cause the loss of nutrients a child needs to grow, so diarrhea is a major cause of malnutrition in children (WHO, 2009). Based on survey of diarrhea morbidity in 2010, the largest proportion of diarrhea sufferers in under five years age group is 6-11 month that is equal to 21,65% and age group 12-17 month equal to 14,43%, age group 24-29 month equal to 12,37% and the smallest proportion in age group 54 -59 month that is 2.08% (Anonymous, 2011).

According to data of Public Health Center of Ngadiluwih, diarrhea case in children in January to June 2015 was found as many as 156 children, and based on preliminary study conducted by researchers through informal interviews to 10 parents of children with diarrhea found that 6 (60%) parents of children say when their child has diarrhea they give a simple solution of ORS solution to prevent their child from dehydration, and as many as 2 (20%) parents give water to their children when they have diarrhea, and as many as 2 (20%) parents

bring it to their doctor for checkup. And obtained from the 10 parents have never given green coconut water when the child has diarrhea to prevent dehydration in children.

Based on Household Health Survey (SKRT), Mortality Study and Basic Health Research from year to year, it is known that diarrhea is still the main cause of infant mortality in Indonesia. The main cause of death from diarrhea is improper management both at home and in health facilities. To reduce death due to diarrhea need a fast and appropriate management (MOH, 2010).

Diarrhea requires comprehensive and rational treatment. In general, diarrheal treatment is aimed at preventing or treating dehydration as well as acid-base balance disturbances, the possibility of tolerance, treat specific diarrheal causes, prevent to cope with malnutrition and treat communicating diseases (Subijanto, 2006). Although most cases of diarrhea in children will be self-limiting (self-limiting disease), but persistent diarrhea with a large amount of stool causes dehydration, and significantly increases morbidity and mortality (Hegar, 2005).

According to some articles on the benefits of young coconut water, it is said that young coconut water is useful as a remedy for diseases surrounding digestion such as gastric inflammation, diarrhea, and dysentery. It can also be used to overcome flatulence, and vomiting. When suffering from diarrhea, coconut water can also be given to eliminate the risk of dehydration. Coconut water replaces the loss of body fluids from the digestive tract and reduces the need for intravenous therapy.

Coconut water osmolarity is soft, slightly larger than oralite. Other contents such as amino acids, enzymes, minerals, and fatty acids can explain this higher osmolarity. Young coconut water is low in sodium and chloride, but is rich in sugar and amino acids. Coconut water contains potassium electrolytes. 100 ml of water has 250 mg of potassium and 105 mg of sodium. Simultaneously, electrolytes help replenish electrolyte deficiency in the body due to diarrhea (Sakti, 2013).

Not only oil and meat alone that has many benefits, but coconut water is also suppose to contain many nutrients. If all this time the use of coconut water is only limited to process it into nata de coco, then with nutrient-dense content, coconut water can be developed more than that. According to the analysis, in old coconut water contains about 91% minerals, 0.3% protein, 0.15% fat, 7.3% carbohydrates and 1.06% ash. Coconut water also contains vitamin C 2.7 mg / 100 ml, while the mineral content of coconut water consists of potassium, sodium, calcium, magnesium, copper, iron, and others.

So with a lot of nutrient content makes coconut water is very rich in properties such as to treat intestinal diseases, cholera diseases, vomiting, smallpox, measles, and others skin diseases. Coconut water also has the potential to be developed into isotonic drinks because in the water has the perfect mineral and sugar content so it has an electorolyte balance.

METHODS

To know the effect of coconut water to decrease degree of dehydration for children aged 5-10 years with diarrhea Know the degree of dehydration before coconut water, Know the degree of dehydration after coconut water and Analyze the effect of coconut water to decrease dehydration degree in children aged 5-10 years with diarrhea. The research design used was one group pretest-posttest. The population in this study was all children aged 5-10 years who experienced diarrhea and samples of some children aged 5-10 who experienced diarrhea in the village Tales District Ngadiluwih. Technique used in this study was the technique "purposive sampling". Instruments used in this study was the observation sheet. Data processing in this research include: editing, coding, scoring and tabulating, then analyzed using frequency and Wilcoxon test.

RESULTS

Table 1. The result of descriptive analysis

Dehydration category	Before given coconut water	After given coconut water
Not Dehydration	0 (0%)	5 (36%)
Light Dehydration	5 (56%)	9 (64%)
Medium Dehydration	9 (64%)	0 (0%)

Table 2. The result of Wilcoxon test

	Degree Dehydration_post - Degree Dehydration_pre
Z	-3.638a
Asymp. Sig. (2-tailed)	0.000

DISCUSSION

Degree of dehydration before giving coconut water

From the research done by researchers in getting 14 respondents that 9 who experienced moderate Dehydration and 5 who experienced mild dehydration. Diarrhea can be caused by abnormal water and electrolyte transport in the intestine. Diarrhea can also cause dehydration in the sufferer because when the diarrhea the body loses a lot of fluid, while the water content in the human body should be 60% healthy but when the body fluid diarrhea is reduced due to more frequent bowel movements with soft constipation (Alodokter, 2014). Around the world there are approximately 500 million children suffering from diarrhea each year, and 20% of all deaths in children living in developing countries are associated with diarrhea and dehydration, while Dehydration is a disturbance in the fluid or water balance in the body. This happens because the water expenditure is more than the income (eg drinking). Impaired loss of body fluids is accompanied by electrolyte balance disorders of the body. Diarrhea is also caused by children who often consume sauce, snacks and snacks yag not clean though.

Dehydration can be prevented by adding fluids to drink immediately after diarrhea; starting recommended household water is tea water, water starch, soup water, and boiled water. The most important action is to give more fluid than usual. Rehydration, if the patient is dehydrated, the patient should immediately get therapy by giving oralite solution. Patients with severe dehydration initially require rehydration with intravenous fluids after dehydration is gone, ORS is still used. Food, feeding during child diarrhea will provide the nutrients that children need to stay strong and grow and prevent weight loss (Wong, 2009). From the tabulation of girls who experience the most diarrheas because girls tend to prefer snacks at rest than the boys who tend to play during school break. And most of them are the first child so parents have not really understood how to handle dehydration when diarrhea lasts.

As a human being it requires a sufficient portion of water to perform all activities. When the body lacks fluids then the immune system can weaken. Disease can attack anytime due to weakened immune system such as diarrhea, the disease is enough to drain the water requirement on the body if the pain is not in balance with the electrolyte in the balance of the body will be dehydrated. Therefore, the dehydrated person should be handled quickly by providing enough fluid between the incoming and outgoing fluids so that the dehydration is not getting worse.

Degree of dehydration after coconut water

Based on the results after being given coconut water then in get decrease of dehydration degree from 9 which become dehydration is down to become mild dehydration and dehydration 5 Mild down to become dehydration. Diarrhea can also cause dehydration in the sufferer because when the diarrhea the body loses a lot of fluid, while the water content in the human body should be 60% healthy but when the body fluid diarrhea is reduced due to more frequent bowel movements with soft constipation (Alodokter, 2014).

While Dehydration is a disturbance in the balance of fluids or water in the body, this occurs because the water out of more than the income (e.g. drinking). Disruption of body fluid loss is accompanied by electrolyte balance disorders of the body. Dehydration can be prevented by adding fluids to drink immediately after diarrhea; starting recommended household water is tea water, water starch, soup water, and boiled water. The most important action is to give more fluid than usual. In Green coconut water contains 0.13 gram protein, 0.12 gram of oil, 4.11 grams of carbohydrate, Ca 20 mg mineral, ascorbic acid vitamin 2.2-3.7 mg and 95.01 / 100 g of water, cugenol compounds (analgesic), sugar 1.7 to 2.6 percent (Berliana, 2010). Because the coconut contains many electrolytes it can replace the electrolyte in the body lost during dehydration.

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The effect of coconut water on dehydration decrease in children aged 5-10 years with Diarrhea

There was a significant difference in dehydration degree between before given coconut water and after given coconut water at the age of 5-10 years with Diarrhea in Tales Village Ngadiluwih District. Diarrhea is a lot of causes of viral infections, wrong absorption, eating stale food, foods that cause allergic circumstances that are not clean environment. Diarrhea sufferers tend to be dominated by children because if the child was in school let alone elementary school kids cookies that variety without know hygiene but at eating so cause

diarrhea. They do not think about how dangerous but which, they think only the food is good and tastes good. The main diarrheal hazards cause dehydration. Dehydration occurs when the output of water and salt is more than the input. The more discharged feces means the more the toddler loses the fluid (Soebagyo, 2008).

Rapid dehydration treatment is needed, such as replacing lost body fluids, adding fluids to be drunk immediately after diarrhea, starting recommended household water is tea water, starch water, soup water, water and coconut water. Because water contains 0.13 grams of protein, 0.12 grams of oil, 4.11 grams of carbohydrate, Ca 20 mg mineral, ascorbic acid vitamin 2.2-3.7 mg and water 95.01 / 100 g, cugenol (analgesic), sugar 1.7-2, 6 percent (Berliana, 2010). In coconut water there are many electrolytes cannot replace the electrolyte in the body that disappears when dehydration takes place. So the results of research is found that the influence of coconut water to decrease the degree of dehydration. This shows that by consuming 200 ml of young coconut water per day it can meet the shortage of body fluids during dehydration.

CONCLUSION

Based on the results could be concluded that there was influence of coconut water to decrease dehydration degree in children aged 5-10 years with Diarrhea.

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