

Making Gluten Free Steamed Brownies Breadfruit Flour and Tapioca Flour as Alternative Snack for Children with Autism

Ayu Kusumaning Dewi

Clinical Nutrition Study Program

Department of Health

ABSTRACT

Autism is a disorder in a child's pervasive development that is usually seen in children before the age of three years, it is characterized by disturbances in the fields of cognitive, language, behavior, communication and social interaction. Children with autism have a substances absorption abnormalities in the intestine. Foods that contain gluten and casein cannot be digested properly by digestion of children with autism, due to gastrointestinal leakage. This study aims to examine the manufacture of steamed brownies by breadfruit and tapioca flour as an alternative snack for autistic children. The design used in this study is a Completely Randomized Design (CRD) with 7 formulations of breadfruit flour and tapioca flour namely 50%: 50%, 55%: 45%, 60%: 40%, 65%: 35%, 70%: 30%, 75%: 25% and 80%: 20% with 4 repetitions. Based on the results of brownies research with the proportion of 50% breadfruit flour and 50% tapioca flour, it can produce the best brownies product based on the results of the organoleptic test with the average value of preference to color 4.19 (likes), taste 4.31 (likes), aroma 4.00 (like), and texture 3.93 (rather like). The results of the gluten analysis of the composition of steamed brownies is 0 mg, physical test results in the form of brownies flower development with the best treatment that is equal to 79.66%. Brownies chemical test results with the best treatment have 250.85 kcal energy, 9.33 protein, 8.61% fat, 34.01% carbohydrate, 46.96% water content and 1.08% ash content per 100 grams product. For one time consumption, patients are encouraged to consume 85 grams of brownies with an energy content of 213.22 kcal, 7.93 grams of protein, 7.31 grams of fat and 28.90 grams of carbohydrates. Within a day, sufferers will be given 2 times a snack.

Keywords: Autism, Breadfruit Flour, Serving Size, Steamed Brownies, Tapioka Flour