ABSTRACT

Obesity is one of the many health problems that occur in adults in low-income countries or medium. According to the World Health Organization (WHO), at least 400 million adults are obese worldwide in 2015 and has accounted for 2% to 7% of healthcare costs. In Indonesia, can be seen in Riskesdas 2018 that pervalensi obese adults over 18 years of as much as 21.8% and the weight as much as 13.6%, thus the overall prevalence of 35.4%. Calculation of Body Mass Index (BMI) is one way to reduce the problem of obesity, but to determine the BMI takes height and weight require higher scales and gauges that do not exist in any place

Of these problems, the final project is designed to find the calculation system that can measure the height and weight of your feet and body image. Image processing soles of the feet will be used as a substitute for height using linear regression and body image used to search for weight loss approaches Body Surface Area (BSA). The data used in as many as 30 objects with the details of the object 15 male - male and 15 female object, image acquisition is done at a distance of 100 cm, 125 cm, 150 cm, 175 cm, 200 cm, 225 cm, 250 cm.

This study provides a 0.8557 determination (R^2) and a coefficient correlation of 0.9250. The acquisition of best images for BMI calculations is at 250 cm. The best BMI calculations use the height of the original length soles and original weight with accuracy 97.67% of 30 data mean there are 29 correct data.

Keywords:*Body Mass Index, Body Surface Area,* The length of soles, Height.