ABSTRACT

Foot is an important body part in human daily activities. Foot will give

different pressures when doing contact with ground based on the foot condition. So,

foot pressure can be a parameter in making a diagnosis in medical, sports, and

scientific field.

Foot pain and disorder is a common condition in daily lives. This condition

could lead to inconvenience in daily activities. Population based studies stated that

24% of people age > 45 years old feel foot pain and two – three of them encounter

moderate disorder in their daily life aspects that associated with their foot

condition. One of the potential risk factor from the foot disorder is the abnormal

foot condition and function structure, that will affect the foot pressure.

This study presents foot pressure information presentation system on force

platform while standing and walking on it. Purpose of the making of this system is

to give low-cost measurement alternative instrument which can show foot pressure

map while walking so medical personnel can use it for further analysis and

diagnose. This sensor uses matrix FSR that is arranged on the platform.

The measurement results then presented to the users in foot pressure

mapping image. Visualization images then processed with bicubic interpolation to

smoothen foot pressure mapping color. In this study, there are two kinds of foot

structure, those are cavus foot with pressure mean value $184.758,75\pm54.416,523$

 kN/m^2 , and normal foot with pressure mean value $180.982 \pm 5.944,907 \ kN/m^2$. On

cavus foot the big pressure value occurs on calcaneus and metatarsal, while normal

foot only on calcaneus.

Keywords: foot pressure, ground reaction force, force platform

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