

Pedobarography study among Malay population in Kuantan, Malaysia: A pilot study

ABSTRACT

INTRODUCTION: Pedobarography has been widely used in developed countries for few decades. However, in Malaysia it is still in its infancy. Studies showed that the normal values of pedobarography vary between races. To the best of our knowledge there is no standard value available for Malaysian or Southeast Asia. This study is designed to measure the pressure values in the normal foot of Malays in Pahang, Malaysia and its difference between different gender and body mass index (BMI). **Materials and Methods:** A total of 400 feet of adult Malay subjects with no existing diabetes mellitus, lower limb and spine pain or problem are measured using Emed-q100 pedobarography device. **Results:** 226 (56.5%) were females. 44.5% were with normal BMI followed by overweight (31.5%), and obese (24%). The mean-maximum-peak pressure (MPP) is 509kPa (SD 167) with no significant difference among gender and BMI. Most (38.5%, n=154) of the peak pressure area (PPA) are observed in 1st metatarsal head and big toe region (1MH&T), followed by 2nd metatarsal head (2MH) (34.3%, n=137). In the normal BMI group, 48.3% were in 1MH&T region while in the overweight and obese groups, 42.1% and 43.8%, respectively were in 2MH. This difference is significant ($\chi^2(df=8)=36.963$, $p<0.001$). There was no significant difference between PPA and gender. **Conclusion:** The MPP among Malays in this study was 509kPa(SD 167) and it is not affected by different genders or BMI. The PPA are most commonly fall on 1MH&T. There is a significant shift in the overweight and obese groups to the 2MHT. This finding can be used as initial reference for further studies, in Malaysia particularly.