

## **Identifying the level of flexibility, agility and speed among track and field athletes with disabilities**

### **Abstract**

In order to become a successful track and field athlete, an athlete must develop skills in flexibility, agility and speed. However, to date, all the research regarding flexibility, agility and speed have concentrated on normal athletes. The present study extends this line of research to disabled track and field athletes in Malaysia. The aims of the present study were to achieve the set a benchmark for measuring level of flexibility, speed and agility among track and field athletes with disabilities; and to examine the influence of participation in either track or field events on the development of flexibility, agility and speed.

Thirty-eight (n=38) track and field athletes with disabilities comprising of 27 males and 11 females participated in the study. Each participant completed six tests made up of sit and reach test, lateral change of direction test, hand grip strength test; back leg dynamometer test and sit-up test. A descriptive analysis was used to assess differences in performance between track and field athletes with disabilities on the six tests. It was observed that track athletes with disabilities were superior on agility, speed and agility than field athletes with disabilities. All the data were analysed using SPSS and presented as mean of ( $\pm$  SEM). The mean value height and weight for male 168.35  $\pm$  1.46m and 66.73  $\pm$  3.28kg. Meanwhile, the mean value height and weight for female's 153.82  $\pm$  2.10m and 45.08  $\pm$  1.94kg. For male Body Mass Index (BMI), the mean was 23.33  $\pm$  4.5 kg.m<sup>2</sup> and 19.09  $\pm$  1.6 kg.m<sup>2</sup> for females. When divided according to gender category, the mean back grip test for male subjects was 92.06  $\pm$  44.2 kg and 48.45  $\pm$  17.2 kg for females. Sit-ups test revealed that the mean performance for male was 35.52  $\pm$  9.8 and 28.36  $\pm$  8.14 for the female athletes. Besides that in the sit and reach test, the mean for male athletes was 30.78  $\pm$  12.2 cm and 23.18  $\pm$  12.40 cm for females athletes. In the hand grip test, male subjects mean was 70.51  $\pm$  30.5 kg and 45.47  $\pm$  15.91 kg for females. The mean value for lateral

change of direction test for male athletes was  $13.66 \pm 3.7$  and  $15.78 \pm 2.9$  for the female athletes. The field athletes were, however, superior on flexibility, back grip test and hand-grip test than track disabled athletes. The results showed the three measures of flexibility, agility and speed were appropriate for determining the physical fitness level of track and field \*Faculty of Sports Science and Recreation, Universiti Teknologi Mara, Malaysia, SMK Syed Mashor, Batang kali, Selangor, Malaysia Faculty of Health Sciences, Puncak Alam Campus, Universiti Teknologi Mara, Malaysia, School of Education & Social Development, Universiti Malaysia Sabah, Malaysia UUM College of Arts and Sciences, Universiti Utara Malaysia, Malaysia athletes with disabilities.