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The gait speed requirement for the admitted general medical patients to fulfill the community mobility standard in the Tai Po district

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Introduction

Ability of walking freely in the community depends on various factors. In 2008, the minimal standard outdoor walking distance, treads of stairs and degree of slope have been established. Meeting these standards, one can step out of home. However, is that good enough to walk anywhere in the community? Sufficient gait speed is important to cross the pedestrian crossings within the community. Therefore, minimal gait speed should be established to provide a realistic indicator to assess patient's ability to cope with their real life outdoor environment.

Objectives

1. To find out the minimal gait speed to cross the pedestrian crossings in the Tai Po district. 2. To evaluate the ability of admitted general medical patients in Tai Po Hospital to cross pedestrian crossings.

Methodology

The measurement of the pedestrian traffic lights in the Tai Po district: There were 152 sets of traffic lights with pedestrian crossings. 88 of those were essential for the patient to go bus stop, park, restaurant or shopping mall. 37 of the 88 crossings had traffic island in between. Hence, two sets of measurements were obtained: the sub-section and the total pedestrian crossing. The minimum gait speed required to cross the pedestrian crossings was calculated from the length of the crossing measured by trundle wheel, as well as the duration of the pedestrian green light measured by digital stopwatch. Gait speed of general medical patients in TPH: 50 general medical patients participated in the study by convenient sampling. The gait speed was calculated by measuring the time to complete a 10-meter pathway using a digital stopwatch. Each subject was instructed to walk along the pathway comfortably and as fast as they could. Therefore, the usual gait speed and the fast gait speed were obtained respectively.

Result

Based on the measurement of the pedestrian traffic light, the minimum gait speed

required to cross the sub-section pedestrian crossing and the total pedestrian crossing were 0.8 m/s and 0.9 m/s respectively. Among the 50 participated patients, 22% (11 patients) and 48% (24 patients) of them could meet the standard of the sub-section pedestrian crossing ($> 0.8\text{m/s}$) with their usual gait speed and fast gait speed respectively. At the same time, only 10% (5 patients) and 32% (16 patients) of them could walk across the total pedestrian crossing with their usual gait speed and the fast gait speed respectively. This standard can be applied to all patients who need to be a community walker again.