

| | |
|------------------------------|--|
| Thesis Title | Comparison of Gait Characteristics of Elderly Thai Women Aged 60-79 Years with Young Thai Women Aged 20-24 Years |
| Name | Uangthip Rattanaprasert |
| Degree | Master of Science (Physiotherapy) |
| Thesis Supervisory Committee | Karnda Chaipackdee, B.Sc., M.Sc. Sopa Pichaiyongwongdee, B.Sc., M.Sc. Sirirat Hirunrat, B.A., M.Sc. in Ed |
| Date of Graduation | 22 June B.E. 2537 (1994) |

ABSTRACT

Quantitatively gait characteristics of the elderly Thai population have not been reported. As a basis for objective and quantitative judgements in routine clinical gait evaluation and training of patients with gait abnormalities in this population, a gait analysis data base would be a useful tool. Thus, the focus of this study is the quantitative analysis of the gait characteristics of elderly Thai women.

To investigate temporal-distance variables and the sagittal angular displacement of the ankle, knee, and hip joints at discrete points in the eight phases of the right gait cycle, twenty subjects aged 60-79 years were compared with twenty young Thai women aged 20-24 years. All participated in one test session consisting of three trials. Each subject was videographed and footprinted during barefoot walking at their self-selected speed down a 10-m walkway. The data were obtained using the Peak2D Motion Measurement System and the method of footprint measurements. There were significant

differences between the compared groups. The elderly women demonstrated reduced step and stride lengths, stride length to leg length ratio, stride length to height ratio, walking velocity expressed in cm./sec. and statures/sec., ($p < 0.001$) and cadence, ($p \leq 0.01$). They walked with longer stride time, ($p < 0.05$), stance time, ($p \leq 0.001$), and double-stance times, ($p < 0.001$). The elderly women also showed differences in their angular kinematics, ($p < 0.05$), at some events of the gait cycle including initial contact; ankle and hip joints, pre-swing; knee and hip joints, initial swing; ankle and knee joints, terminal swing; knee and hip joints, that suggested a decrease in walking function. Hence, this study has produced evidence that the elderly Thai women walked with different gait characteristics from those of the young. The results indicated that when evaluating and treating patients with gait abnormalities in the elderly group of the population, it should not be expected that the outcomes will be similar to those of the young group.