

S.N. SYED ABD RASHID. *Ergonomic design and assistive technology for residents ageing in Malaysian public funded shelter homes. Gerontechnology 2010;9(2):244;*

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Purpose One of the most deeply held desires as a person grows old is to be able to remain independent whether living in homes or institutions⁷. However, the latter is often referred to as 'houses for the poor or forgotten people'. Institutions are a particularly poor way of caring for the aged, but for some, this is the only housing option. These residents have to 'age-in-institutions' that often fail to meet their physical, cognitive strength, capabilities and limitations. In response to the need to reduce dependency while also improving Quality of Life², this study proposes ergonomic design solutions and technological innovations which may reduce cost burden and the declining ratio of the elderly to the care giver. The prolongation of self-sufficiency of the elderly in performing daily activities independently is possible by creating an ergonomic elderly friendly environment based on the anthropometric measurements of the elderly⁵, and also technological environments to support the users^{1,3}. The objectives of the study were to investigate the present living environments of the ten public funded shelter homes in Malaysia, and the technology available to assist independent living. The aim is to provide design guidelines for ergonomic designed institutions based on the anthropometric measurements of the elderly and to determine the attitudes and the readiness of the residents towards the use of assistive technologies that are available as well as the social factors influencing their attitudes. **Method** There are two parts for data collection in the study. Firstly, data on the living environments which include selected facilities, fixtures and the available technological devices provided in the institutions were collected via observations, measurements and interviews. Interviewing provided information on the residents' interpretations of independent living and their readiness and attitudes towards assistive technology available. Secondly, an anthropometric data set on 230 Malaysians aged 60 years and above was collected which consisted of 24 body dimensions relevant to design living facilities and fixtures provided in the institutions. Computer aided engineering software was used to validate the extent to which the current design of the selected facilities and fixtures provided in these institutions match the anthropometric data of the elderly. **Results & Discussion** Respondents consisted of 129 males (56.1%) and 101 females (43.9%), with a mean age of 67 years. The mean values, standard deviations, medians, range, coefficients of variations and percentile values for the various body dimensions were estimated. Findings showed that the design and measurements of the selected fixtures and facilities do not meet the requirements and needs of the residents causing discomfort and a threat to safety. With regards to assistive technology, the survey results showed that the majority of the residents view advances in technology in a positive light for better QoL and expressed a willingness to use and adapt to the technology. This study provides insights for better design guidelines and the readiness to use and adapt to assistive technology for authorities to improve on the living and technological environments of those aging in institutions.

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