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SYSTEMATIC REVIEW ON HANDLES OF CANES FOR THE ELDERLY'S DAILY AMBULATION

Abstract:

Among mobility aids for elderly, cane is considered as the basics and the most frequently used by elders to assist in their daily mobility. This research aims to gain further knowledge and secure essential references for designing a cane for elderly through summarizing and analyzing literature written on the effect of using cane (especially cane handles) on elderly users.

In the research, three online Databases Science Direct, Pubmed and Medscape were used to search for relevant papers using key terms of Cane, Age gait, Ergonomic Design cane and their synonyms. Articles were then filtered by reviewing the abstracts according to the inclusion criteria: (1) the paper had to be written in English language, (2) the paper had to be published between 2006 and 2016, (3) Studies that had involved participants aged 65 and above, (4) Studies that had involved walking stick/ cane as part of the sample, (5) The paper had to be an original study, (6) The paper is not a conference abstract.

The selected articles were then filtered again by reviewing the whole article to define the relevancy of the article to the objective: (1) To study the effects of cane in elders- walking speed, cane height, (2) To study the effects of cane handle in elders, (3) To synthesize findings for application in future cane designs.

As a result, a total of 385,081 articles were obtained from databases Pubmed, Medscape and Science Direct by using various search terms and their synonyms. 565 articles remained after confirming the search term and title was related to the objective. Only 25 articles that eligible for the inclusion and exclusion criteria were remained. Multi-functionality, comfort ability and suitability, inter-changeability and material used are important attributes in cane handle design. Considering the health status, preference and living environment of the elders, attributes such as the color, design, material used, size and shape should be studied before designing the cane. This study is conducted as a part of long-term project that ultimately designs a cane for the frail by referring to the results found in this study.

Keywords:

Cane Design, Elderly, Mobility Aid

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