The Effects Of Physical Activity Participation For Elderly: A Meta-Analysis

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Purpose of study

Korea has become aging society with the problems that the elderly's physical function and financial income has declined. In 2019, it is anticipated that Korea elderly population will account for 14% of the population (Baek, Min & Jung, 2016). In addition, to preparing for super high aged society, various researches are focusing on successful aging. Therefore, alternative is needed to solve the psychological shrinking of elderly.

The individual research which has so far aimed at participation of elderly is processed using various methods. However, only a few comprehensive studies have been conducted. Thus, the purpose of this study is to examine the effect of physical activity participation of elderly so this research utilized meta-analysis.

Theoretical background

Because the senescence is the period that health and stamina are constantly weakening, physical activity plays important role for the aged. Individual studies did not show the consistent results in relation to exercise participation of the elderly.

In this study, meta-analysis was applied to solve the differences among the researches. Meta-analysis is a quantitative summary of the results by summarizing and comparing the results analyzed for different background factors on similar research topics (Farley & Lehmann, 1986). In meta-analysis, the effect size, which is a standardized statistic, is calculated to enable comparison between different studies, which is easy to quantify because it includes the magnitude and direction of the variables (Glass, 1976). In other words, meta-analysis has the advantage of gaining the overall result of various dependent variables in measuring the influence of specific variables.

Method

This study intended to investigate exercise participation of the elderly. Journal articles and dissertations published from January 1995 to August 2016 were chosen. To search journal articles and dissertations, We use Research Information Sharing Service (http://www.riss.kr) and Korean studies Information Service System (http://kiss.kstudy.com). This study searched keywords as "elderly sports", "elderly physical education", "elderly movement", "elderly leisure" and " elderly physical activity". Results were primarily searched in 802 dissertations and 603 papers in academic journals. Also studies that appropriately suggested sample size, correlation coefficient, and some of demographic characteristics were selected. Therefore, total 20 papers have been finally selected for the analysis. This study conducted includes the coding work on the 20 studies (8 journal Articles, 12 dissertations) selected pursuant to the aforementioned criteria. The coding items included researchers, publication year, correlation coefficients, number of samples, dependent variables. As for the specific statistical processing, the meta analysis program called CMA (Comprehensive Meta Analysis) was utilized.

Results and discussion

The results of this study are as follows. First, in the Egger's test of intercept, the regression section was -0.2844 and the standard error was 2.76 p = .99 (2-tailed) so the significance of the regression section wasn't verified. Second, results showed that physical activity participation have a middle effect on dependent variable, with an effect size of 200. It means that the easier exercise program should be developed and offered to involve the elderly in the exercise. Third, the most influential effect size of physical activity participation sub-factors was duration. It implies that lasting exercise results from childhood participation of physical activity. Lastly, self-efficacy and life satisfaction had the biggest effect on physical activity participation. It shows that the sport for all of the aged improve their confidence and maintain psychological stability.

On the other hand, Netz, Wu, Becker and Tenenbaum (2005) conducted a meta-analysis of the effects of physical activity on the psychological well-being of the elderly. Compared with the present study, the effect size of period, frequency, and strength period was the largest in Korea, but it was found that the effect size of strength was the largest in the United States. On the other hand, the effect of self-efficacy was the most significant among the dependent variables.

References

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