修士論文抄録

生活期リハビリテーション利用者における身体活動量の経時的変化とその関連要因
Longitudinal changes in the amount of physical activity and its related factors in users of Lifestyle Rehabilitation

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概要
目的：身体活動量の向上は虚血性心疾患，高血圧，糖尿病，肥満などの罹患率や死亡率を下げ，寝たきりを予防する効果があるといわれ，生活期リハビリテーション (以下生活期リハ) を利用することによる身体活動量の向上が望まれている．
本研究の目的は，身体活動量を歩数で測定し，研究 1-1 では生活期リハビリテーション利用者 (以下，利用者) の歩数の経時的変化を調査し，利用日と非利用日で比較すること．研究 1-2 では利用者の配偶者の歩数を調査し，利用者と配偶者の歩数の変化量を比較することにより，生活期リハの効果を検討すること．研究 1-3 は歩数と生活期リハで使用される，評価指標の関連要因を明確にすることを目的とした．
対象と方法:研究 1-1，研究 1-3 では，2020 年 11 月 ~2021 年 7 月の期間，生活期リハを利用し，研究に同意した 106 名 (79.6 ± 6.9 歳) を対象とした．
研究 1-2 では 2021 年 7 月～ 2021 年 10 月の期間，生活期リハを利用した，利用者 45 名 (77.1 ± 6.2 歳)，利用者の配偶者 45 名 (76.8 ± 4.6) を対象とした．
歩数と評価指標の関連要因の調査は，評価指標として Vitality Index(以下 VI)，Functional Independence Measure(以下 FIM)，Mini-Mental State Examination(以下 MMSE)，10-second chair stand test(以下 CS-10) を，2 ヶ月に 1 回測定した．
結果：研究 1-1：利用者の測定期間全体における，1 日当たりの歩数は，1035 ± 573 歩であり，9 ヶ月間の測定期間中の歩数は，有意な変化は認めなかった．また，生活期リハ利用日，非利用日の歩数を測定した結果，利用日は 1030 ± 297 歩，非利用日は 994 ± 423 歩であり，有意差を認めなかった．
研究 1-2：利用者と配偶者の歩数の比較は，利用者の歩数は 1037 ± 448 歩，配偶者の歩数が 7235 ± 1472 歩であり，配偶者の歩数が有意に多かった．3 ヶ月間の測定期間中の歩数の変化量は，利用者は，69 ± 296 歩に対し，配偶者は，－ 472 ± 1748 歩であり、配偶者の歩数は有意に低下していた．
研究 1-3:歩数と評価指標との関連を調査した結果，歩数と相関係数は VI は 0.101，FIM は 0.037，MMSE は 0.109，CS-10 は 0.113 であり，歩数と評価指標に相関関係は認めなかった．
結語：本研究結果から，要支援，要介護高齢者の歩数は健常高齢者と比べ、低下していることが明らかとなった．また，生活期リハ利用日と非利用日の歩数に有意な差は認めず，生活期リハが歩数に影響を与えていないことが明らかとなった．しかし，研究 1-2 の結果から，利用者の歩数の変化量は配偶者よりも有意に少なかった．このことから，生活期リハ利用による歩数の有意な変化はないが，生活期リハによって歩数が維持できたと考えられた．
研究 1-3 の結果から歩数と評価指標に相関関係は認めなかったが，評価指標とは異なる側面を評価していると考えることができ，新たな評価指標として使用できる可能性があることが示唆された．

キーワード：身体活動量，歩数，活動量計，生活期リハビリテーション

Abstract： Objective：　Improving physical activity is said to reduce morbidity and mortality from ischemic heart disease, hypertension, diabetes, and obesity, and to prevent bedridden patients. Therefore, it is desirable to improve physical activity by using Lifestyle Rehabilitation.
The purpose of this study was to measure the amount of physical activity in terms of the number of steps taken, and in Study 1-1, to investigate the temporal changes in the number of steps taken by users of lifestyle rehabilitation (hereafter referred to as "users") and to compare the number of steps taken on days of use and on days of non-use. In Study 1-2, the number of steps taken by the spouse of the user will be investigated, and the effect of lifestyle rehabilitation will be

examined by comparing the amount of change in the number of steps taken by the user and the spouse. The purpose of Study 1-3 was to clarify the factors related to the number of steps and the evaluation index used in the lifestyle rehabilitation.

Methods : In Study 1-1 and Study 1-3, 106 subjects (79.6 ± 6.9 years old) who used the Lifestyle Rehabilitation between November 2020 and July 2021 and agreed to the study were included.

In Studies 1-2, 45 patients (77.1 ± 6.2 years) and 45 spouses (76.8 ± 4.6 years) of patients who used the Lifestyle Rehabilitation Program between July 2021 and October 2021 were included.

In order to investigate the factors related to the number of steps and the evaluation indices, the following evaluation indices were used: Vitality Index (VI), Functional Independence Measure (FIM), Mini-Mental State Examination (MMSE), and 10-second chair stand test (CS-ST). The Vitality Index (VI), Functional Independence Measure (FIM), Mini-Mental State Examination (MMSE), and 10-second chair stand test (CS-10) were measured once every two months.

Results : Study 1-1: The number of steps per day during the entire measurement period was 1035 ± 573 steps, and there was no significant change in the number of steps during the 9-month measurement period. The number of steps per day was 1035 ± 573 during the entire measurement period, and there was no significant change in the number of steps during the measurement period of 9 months. The number of steps on the days of use and non-use of the Lifestyle Rehabilitation Center was 1030 ± 297 on the days of use and 994 ± 423 on the days of non-use, and there was no significant difference.

Study 1-2: A comparison of the number of steps taken by users and their spouses showed that the number of steps taken by users was 1037 ± 448 and that by spouses was 7235 ± 1472, with the number of steps taken by spouses being significantly higher. The change in the number of steps during the 3-month measurement period was 69 ± 296 steps for the user compared to -472 ± 1748 steps for the spouse, indicating a significant decrease in the number of steps for the spouse.

Studies 1-3: The correlation coefficients of VI, FIM, MMSE, and CS-10 were 0.101, 0.037, 0.109, and 0.113, respectively, and no correlation was found between the number of steps and the evaluation index.

Conclusion : The results of this study showed that the number of steps taken by the elderly requiring support and care was lower than that of the healthy elderly. In addition, there was no significant difference between the number of steps taken on days when lifestyle rehabilitation was used and on days when it was not, indicating that lifestyle rehabilitation had no effect on the number of steps taken. However, the results of Studies 1-2 showed that the amount of change in the number of steps of users was significantly less than that of their spouses. This suggests that although there was no significant change in the number of steps due to the use of lifestyle rehabilitation, the number of steps could be maintained by lifestyle rehabilitation.

The results of studies 1-3 showed that there was no correlation between the number of steps and the evaluation index, but it can be considered that the number of steps evaluates different aspects from the evaluation index, suggesting that it may be used as a new evaluation index.

Key words: physical activity, number of steps, activity meter, lifestyle rehabilitation