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Analysis of Factors Affecting Medication Adherence in Patients with Hypertension in South Korea

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BACKGROUND

- Medication therapy is deemed a crucial factor in the management of chronic diseases, and it is recognized as an essential concept in ensuring the effective control of blood pressure in individuals with hypertension patients.

- Hypertension is often symptomless, making it difficult for people to realize its seriousness until complications occur, which hinders consistent medication adherence.

- Additionally, medication non-adherence is common issue, with many cases involving actions such as discontinuing medication, altering dosages, and changing the timing of administration etc.

- This highlights medication challenges in hypertensive patients, and the restrictions on hospital visits due to COVID-19 have also affected medication adherence.

PURPOSE

- In this study, we aimed to examine changes in medication adherence pre and post COVID-19 and identify the factors influencing medication adherence among hypertensive patients

- Furthermore, we seek to determine whether there are differences in 'outpatient healthcare expenditure' based on changes in medication adherence.

METHODS

▶ Analysis Data:

Using 'Korea Health Panel(KHP)' annual integrated data in 2019-2021 for conducting empirical analysis. Survey was conducted annually.

▶ Study Target: Survey targets respondents who have participated each year. Approximately 3,000 individuals each year.

▶ Operational definition

- Medical Adherence: Survey conducted using a 5-point Likert scale to assess if patients follow prescribed medication 'Dosage, timing, and frequency(3 questions)' as instructed by doctor.

▶ Statistical Analysis

① Using 2020 year as the baseline, we analyzed the short-term changes(2019-2020) & Long-term changes(2019-2021) differences, applying 'First Difference Model'

② Descriptive statistics was employed to observed changes in outpatient healthcare costs before& after COVID-19

③ Logistic regression analysis was adopted to identify factors influencing medication adherence.

RESULTS

- Main results are as follows, [Table] reveals that medication adherence stayed bad or the rate of 'good to bad' transitions exceed 30%.
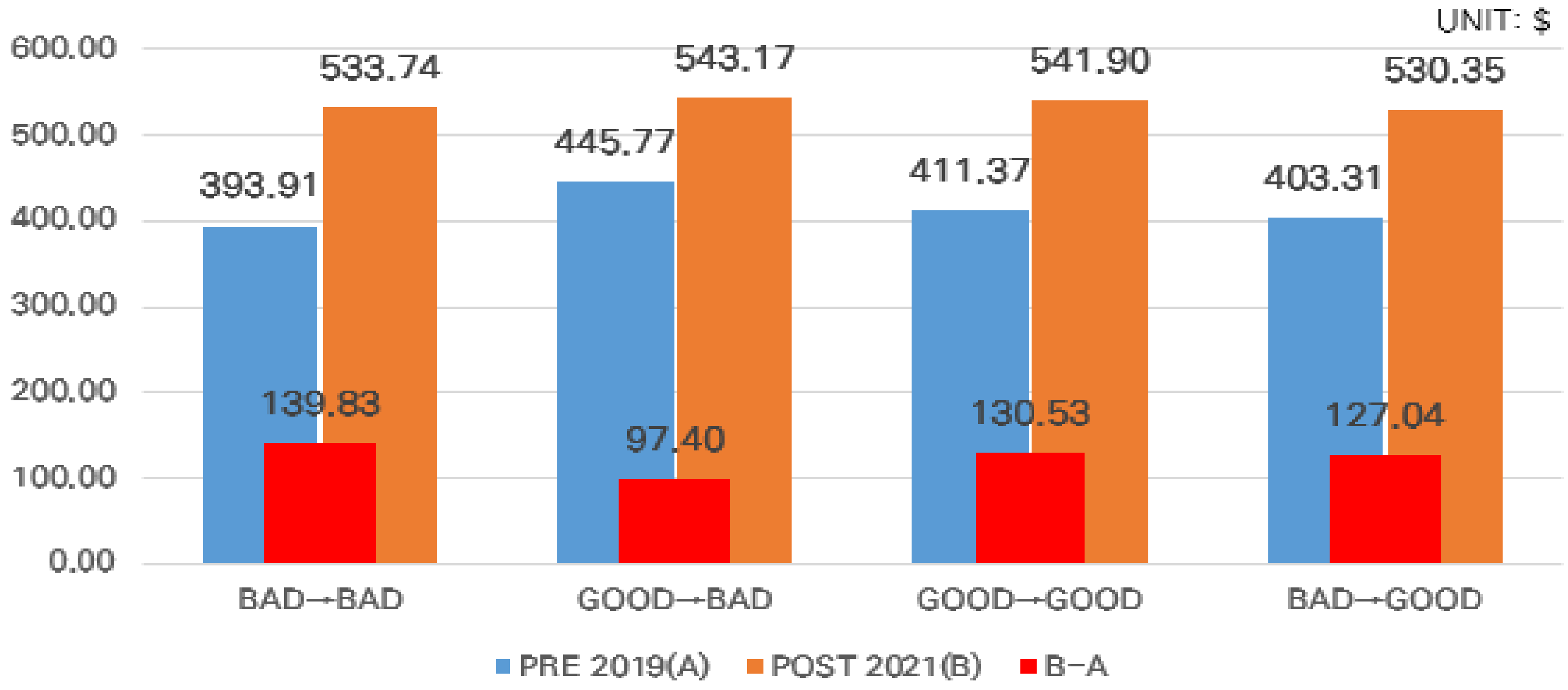
[Table] Yearly hypertension patients medication adherence changes

	Short-term(2019-2020)	Long-term(2019-2021)
TOTAL	3,126(100.0)	2,897(100.0)
BAD→BAD	407(13.0)	343(11.8)
GOOD→BAD	666(21.3)	542(18.7)
Negative Changes	1,073(34.3)	885(30.6)
GOOD→GOOD	1,549(49.6)	1,517(52.4)
BAD→GOOD	504(16.1)	495(17.1)
Positive Changes	2,053(65.7)	2,031(69.5)

-Good: 12 points or more out of 15 points / Bad: 6 points or less out of 15 points

- To assess the short/long term impact of COVID-19, we analyzed data spanning the years before and after the onset of the pandemic, with a baseline set in 2019 [Table].

- With the prolonged presence of pandemic, it displayed a distinct pattern different from its initial impact, particularly highlighting prominent early negative changes (34.3% compared to 30.6%).

[Figure] Per capita annual outpatient healthcare expenditure

- It is evident that medical expenses increased in all groups after COVID-19 compared to pre-COVID-19 period(2019) [Figure].

- In group where medication adherence was 'bad to bad', the medical cost gap showed the most significant increase($139.83)

- Logistic regression analysis found that 'age, marital status, economic activity, and the presence of primary care physician/hospitals were factors affecting medication adherence.

- Particularly noteworthy is that having a primary care physician and visiting a preferred hospital(primary treatment center) were strongly associated with better medication adherence.

CONCLUSIONS

- This study examined changes in medication non-adherence among hypertensive patients in South Korea before and after COVID-19.

- Furthermore, it is a comprehensive analysis of the factors influencing medication adherence.

- This study findings suggests that to maximize the effectiveness of medication therapy in hypertension patients, drug interventions and education programs, considering individual characteristics should be implemented.

- Also, further research is needed to understand the reasons for the increase in medical expenses in all groups after COVID-19