P-43

EFFECTIVENESS OF THE INTENSIVE REHABILITATION REIMBURSEMENT IN KOREA WORKERS' COMPENSATION INSURANCE

Sung Hoon Jeong [1,3], Junsoo Ro [4], Gangpyo Lee [5], Jin-Hong Kim [5], Ye-Ji Hong [5], Ja-Ho Leigh [2,3*]

[1] Department of Health Policy and Management, Inje University, Gimhae, South Korea
[2] Department of Rehabilitation Medicine, Seoul National University Hospital, Seoul, South Korea
[3] National Traffic Injury Rehabilitation Research Institute, National Traffic Injury Rehabilitation Hospital, Yangpyeong, South Korea
[4] Department of Preventive Medicine and Public Health, School of Medicine, Ajou University, Suwon, South Korea
[5] Rehabilitation Medical Research Center, Incheon Hospital, Korea Workers' Compensation and Welfare Service, Incheon, South Korea

BACKGROUND

- Occupational injuries and illnesses can have significant physical and economic impacts on both individuals and society. In response, Korea's workers' compensation insurance(WCI) has strengthened its support for treatment and rehabilitation.
- However, because WCI's rehabilitation reimbursement criteria are largely based on the National Health Insurance (NHI) standards, concerns have arisen regarding limited access to adequate rehabilitation services.
- To address this issue, a pilot reimbursement system for rehabilitation services was introduced in 2017, primarily in Korea Workers' Compensation and Welfare Service (COMWEL) hospitals.

OBJECTIVES

- This study aims to analyze the operational effectiveness of the pilot intensive rehabilitation reimbursement system implemented in COMWEL hospitals since 2017 and to provide foundational evidence for the rational development and application of WCI reimbursement policies.

METHODS & MATERIALS

- **Data Source & Study Population:** This study used Korea Workers' Compensation Insurance (KWCI) data from 2017 to 2023. Participants not meeting the study criteria or with missing key covariates were excluded. Patients were classified into the pilot reimbursement group and non-reimbursement group, and 1:1 propensity score matching was performed based on EMR-ISS, sex, age, income level, employment status, and year of claim closure. A total of 5,938 matched pairs (N=11,876) were included in the final analysis.
- **Independent & Outcome Variables:** The main independent variable was participation in the pilot intensive rehabilitation reimbursement system. The primary outcome was return-to-work (RTW) status, determined through follow-up of post-injury employment records.
- **Statistical analysis:** Covariate balance after matching was assessed using Chi-squared test. A multivariate logistic regression was used to evaluate the association between participation in the pilot rehabilitation reimbursement system and return-to-work (RTW). Subgroup analyses were stratified by Employment Status, Employment Type, Excess Mortality Ratio-adjusted Injury Severity Score (EMR-ISS), and Industry Type.

Acknowledgments : This study was supported by a grant from the Ministry of Land, Infrastructure and Transport (MOLIT) Research Fund (NTRH RF-2025001).

Results

Table 1. Sociodemographic Characteristics of Matched Participants After 1:1 Propensity Score Matching

variable	Non-reimbursement Group				Reimbursement Group		Before Mat-ching*	After Mat-ching*
	Before		After					
	113,697	-	5,938	50.0	5,938	50.0		
Sex							0.4046	0.8893
Male	92,058	80.97	4,788	80.63	4,782	80.53		
Female	21,639	19.03	1,150	19.37	1,156	19.47		
Age [a]							<.0001	0.8117
	56.23	12.33	51.72	12.18	51.66	12.01		
Income level [b]							0.6383	0.9995
Low	28,753	25.29	1,475	24.84	1,470	24.76		
Low-mid	28,568	25.13	1,480	24.92	1,479	24.91		
Mid-high	30,831	27.12	1,646	27.72	1,650	27.79		
High	25,545	22.47	1,337	22.52	1,339	22.55		
Employment Status [c]							0.0089	0.9554
Regular Worker	65,118	57.27	3,526	59.38	3,521	59.30		
Temporary Worker	4,183	3.68	203	3.42	209	3.52		
Daily Worker	44,396	39.05	2,209	37.20	2,208	37.18		
EMR-ISS							<.0001	0.9996
Severe	10,243	9.01	936	15.76	937	15.78		
Moderate	30,476	26.80	2,095	35.28	2,095	35.28		
Mild	72,978	64.19	2,907	48.96	2,906	48.94		

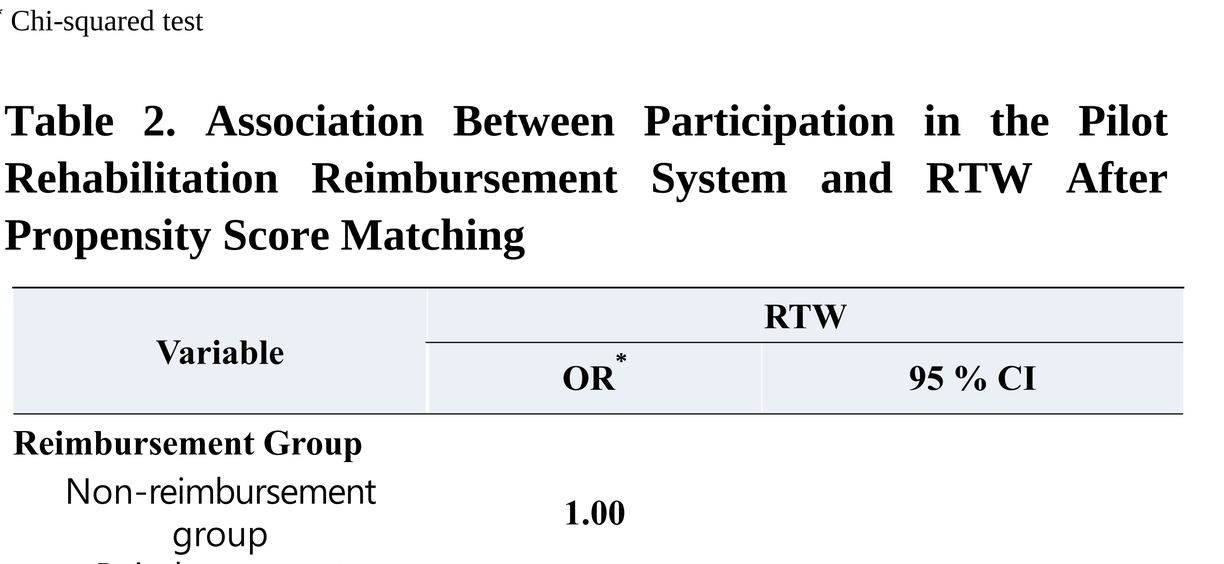
Abbreviation: Excess Mortality Ratio-adjusted Injury Severity Score, EMR-ISS
[a] Values are presented as mean ± standard deviation.
[b] Income quartiles were determined based on the overall income distribution of the study population.
[c] Injury severity was classified using the Excess Mortality Ratio-adjusted Injury Severity Score (EMR-ISS): mild (1–8), moderate (9–24), and severe (25–75).
* Chi-squared test

Table 2. Association Between Participation in the Pilot Rehabilitation Reimbursement System and RTW After Propensity Score Matching

Variable	RTW		
	OR*	95 % CI	
Reimbursement Group			
Non-reimbursement group	**1.00**		
Reimbursement Group	1.10	1.02 -	1.19

Abbreviation: Return-to-work, RTW; OR, Odds ratio; 95% confidence interval, 95% CI
* Adjusted for other covariates.

Figure 1. Sub-group Analysis of the Association Between Reimbursement Group and RTW by independent variables



The reference group is **"Non-reimbursement" group**
± Adjusted for other all covariates

Conslusion

- Injured workers who received the pilot rehabilitation reimbursement system had better RTW outcomes, especially among socioeconomically disadvantaged and severely injured groups, highlighting the need for policy enhancements within WCI.