



정택수 JEONG TAEKSOO

iD in

생년월일: 1998.05.02

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PROFESSIONAL EXPERIENCE

2024.01

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현재

Clinical Research Coordinator

가톨릭관동대학교 국제성모병원 | 재활의학과

핵심 성과

- 3.9억 원 규모 다기관 R&D 프로젝트 총괄 관리
- SCI급 논문 공동저자 1편 게재 (Frontiers in Neurology) + 제1저자 논문 1편 투고 예정 (MDPI)
- 국내 학회 포스터 발표 2건 (대한재활의학회 추계학술대회)
- 보건복지부·한국보건산업진흥원 실증사업 중간보고회 Q&A 세션 진행

보건복지부 첨단의료지원관 국장, 의료정보정책과장, 보건산업진흥원 바이오헬스혁신본부장 등 주요 인사 참석, 디지털 헬스케어 실증 연구 관련 질의응답 진행

주요 업무

- AI 기반 디지털 인지훈련 치료제 다기관 무작위대조 임상시험(MCI·뇌졸중 대상) 총괄
- 대상자 모집·선정, IRB 심의, CRIS 등록, 연구비 집행 및 보고서 작성
- 임상시험 문서 관리, 데이터 품질 점검, 연구 진행 모니터링
- 교수진·간호사·치료사 등 다직종 협업을 통한 연구 프로세스 구축 및 개선
- 학술 논문 작성 및 학회 발표

2025.02

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2025.08

Clinical Research Associate (프리랜서)

(주)플코스킨 | 계약 만료

- 임상시험 초기 IRB 문서 검토

EDUCATION & CERTIFICATIONS

2017.03

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2023.02

전남과학대학교 | 간호학과 학사
간호사 면허 (No.494848) | 보건복지부 (2023.02)

PUBLICATIONS

1. AI-driven cognitive telerehabilitation for stroke: a randomized controlled trial

Frontiers in Neurology | Published: August 14, 2025 (공저자)

뇌졸중 환자를 위한 AI 기반 인지 원격재활의 임상 효과를 다기관 무작위 대조시험을 통해 검증한 연구로,
AI 재활이 치료사 감독형 재활과 동등한 인지 개선 효과를 보였음을 입증함

2. Designing a Generative AI Framework for Cognitive Intervention in Older Adults: An Engineering Protocol for Clinical Application

MDPI | To be submitted: November 2025 (제1저자)

고령자의 인지기능 저하와 디지털 배제를 해결하기 위해 생성형 AI 기반 3중
에이전트(Coach-Teacher-Companion) 시스템을 설계하고, 일상생활 속 자연스러운 인지훈련
흐름(Context-Adaptive Cognitive Flow)을 구현

공동 제1저자: 황건희 (홋카이도대학교 응용물리학 박사과정) | 교신저자: 김두영 교수 (가톨릭관동대 국제성모병원
재활의학과)

PROFESSIONAL DEVELOPMENT

교육 & 자격

- 임상시험 모니터요원(**CRA**) 신규자 과정 (1200분) | KONECT 국가임상시험지원재단 (2025.02)
- 임상연구와 AI | 고려대학교 의료원 (2024.07)
- Leadership | LinkedIn Learning (2024.05)
- Communication & Leadership | LinkedIn Learning (2024.05)

학회 참석

- 대한재활의학회 춘계·추계 국제학술대회 (2024~2025, 총 4회)

CONFERENCE PRESENTATIONS

2024 추계 대한재활의학회

Artificial Intelligence-Guided Mobile Telerehabilitation for Subjects with Cognitive Impairment

P-34	Artificial Intelligence-Guided Mobile Telerehabilitation for Subjects with Cognitive Impairment																																																																																															
Name Jeon*, Doo Young Kim*, Taeksoon Jeong*, Sue Bin Kim*, Bum-Suk Lee*, Min Soo Kang*, Si-Woon Park*	Department of Rehabilitation Medicine, International St. Mary's Hospital, Catholic Kwandong University College of Medicine, Incheon 22771, Korea Department of Physical and Rehabilitation Medicine, Seongnam Hospital, Incheon																																																																																															
Introduction																																																																																																
To test feasibility and usability of Artificial Intelligence (AI)-guided mobile cognitive telerehabilitation program for patients with stroke or older adults with mild cognitive impairment.																																																																																																
Method																																																																																																
<p>Design: Case series with pre-post comparison.</p> <p>Setting: A university hospital and a rehabilitation hospital.</p> <p>Participants: Thirteen subjects with cognitive impairment (Mini-Mental State Examination (MMSE) ≤ 20): 9 subjects with stroke, 4 subjects with MCI.</p> <p>Interventions: Each participant was given a tablet PC on which AI-guided mobile cognitive rehabilitation program (MMSE) was installed and instructed to go through the program for 24 sessions.</p> <p>Main Outcome Measure: Cognitive function was evaluated MMSE, digit span, trail making test A & B. Usability questionnaire consisted of equitable and flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, size and space for use and approach, overall quality of product and overall satisfaction.</p>																																																																																																
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<p>Thirteen subjects with cognitive impairment were enrolled, including 9 stroke patients and 4 subjects with MCI. Two participants withdrew after enrollment due to lack of motivation; one from the MCI group before the initial assessment and the other from the stroke group after the first 24 sessions. The average age of the participants was 68.45 ± 8.61 years, with eight females (72.7%) and three males (27.3%). The average education level was 10.73 ± 2.26 years (range 7.0–13.26). The stroke participants had experienced stroke for an average of 79.63 ± 52.3 days post-onset. (Table 1)</p>																																																																																																
<p>The MMSE score was significantly increased from 22.61 ± 3.93 at baseline to 26.18 ± 3.22 after intervention ($p=0.04$). Other cognitive measures, such as digit span (forward and backward) and trail making test B, showed improvement in intervention without statistical significance. However, results of quality of life, self-efficacy and depression did not show significant change. (Table 2)</p>																																																																																																
<p>Table 2. Outcome measure analysis</p> <table border="1"> <thead> <tr> <th></th> <th>Total</th> <th>MMSE</th> <th>DSF</th> <th>DSB</th> <th>TMT-A</th> <th>TMT-B</th> <th>EQ-5D</th> <th>EQ-5D-5L</th> <th>EQ-VAS</th> <th>SIS</th> <th>SDADI</th> <th>Current Performance</th> <th>Latent Capacities</th> <th>MCI</th> <th>NHES</th> </tr> </thead> <tbody> <tr> <td>Total</td> <td>4.3 (1.1, 5.0)</td> <td>4.3 (3.5, 5.5)</td> <td>0.180</td> <td>0.180</td> <td>4.3 (3.1, 5.5)</td> <td>4.3 (3.1, 5.5)</td> <td>0.534</td> <td>0.534</td> <td>60.25±6.69</td> <td>61.62±9.60</td> <td>0.771</td> <td>0.771</td> <td>0.771</td> <td>0.157</td> <td>0.157</td> </tr> <tr> <td>SD</td> <td>1.0 (0.2, 1.7)</td> <td>1.0 (0.2, 1.7)</td> <td>0.180</td> <td>0.180</td> <td>1.0 (0.2, 1.7)</td> <td>1.0 (0.2, 1.7)</td> <td>0.534</td> <td>0.534</td> <td>6.28±1.81</td> <td>6.28±2.86</td> <td>0.781</td> <td>0.781</td> <td>0.781</td> <td>0.157</td> <td>0.157</td> </tr> <tr> <td>Range</td> <td>4.3 (1.1, 5.0)</td> <td>4.3 (3.5, 5.5)</td> <td>0.180</td> <td>0.180</td> <td>4.3 (3.1, 5.5)</td> <td>4.3 (3.1, 5.5)</td> <td>0.534</td> <td>0.534</td> <td>54.25±6.69</td> <td>54.62±9.60</td> <td>0.771</td> <td>0.771</td> <td>0.771</td> <td>0.157</td> <td>0.157</td> </tr> <tr> <td>n</td> <td>4 (1, 1, 1, 1)</td> <td>4 (1, 1, 1, 1)</td> <td>0 (0, 0, 0, 0)</td> <td>0 (0, 0, 0, 0)</td> <td>4 (1, 1, 1, 1)</td> <td>4 (1, 1, 1, 1)</td> <td>0 (0, 0, 0, 0)</td> <td>0 (0, 0, 0, 0)</td> <td>4 (1, 1, 1, 1)</td> <td>4 (1, 1, 1, 1)</td> <td>0 (0, 0, 0, 0)</td> </tr> <tr> <td>p-value</td> <td>0.048</td> </tr> </tbody> </table>			Total	MMSE	DSF	DSB	TMT-A	TMT-B	EQ-5D	EQ-5D-5L	EQ-VAS	SIS	SDADI	Current Performance	Latent Capacities	MCI	NHES	Total	4.3 (1.1, 5.0)	4.3 (3.5, 5.5)	0.180	0.180	4.3 (3.1, 5.5)	4.3 (3.1, 5.5)	0.534	0.534	60.25±6.69	61.62±9.60	0.771	0.771	0.771	0.157	0.157	SD	1.0 (0.2, 1.7)	1.0 (0.2, 1.7)	0.180	0.180	1.0 (0.2, 1.7)	1.0 (0.2, 1.7)	0.534	0.534	6.28±1.81	6.28±2.86	0.781	0.781	0.781	0.157	0.157	Range	4.3 (1.1, 5.0)	4.3 (3.5, 5.5)	0.180	0.180	4.3 (3.1, 5.5)	4.3 (3.1, 5.5)	0.534	0.534	54.25±6.69	54.62±9.60	0.771	0.771	0.771	0.157	0.157	n	4 (1, 1, 1, 1)	4 (1, 1, 1, 1)	0 (0, 0, 0, 0)	0 (0, 0, 0, 0)	4 (1, 1, 1, 1)	4 (1, 1, 1, 1)	0 (0, 0, 0, 0)	0 (0, 0, 0, 0)	4 (1, 1, 1, 1)	4 (1, 1, 1, 1)	0 (0, 0, 0, 0)	0 (0, 0, 0, 0)	0 (0, 0, 0, 0)	0 (0, 0, 0, 0)	0 (0, 0, 0, 0)	p-value	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048
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AI-guided mobile cognitive telerehabilitation program is feasible and potentially beneficial in improving cognitive function for patients with stroke or older adults with MCI. Special consideration should be given to those who are less familiar with electronic devices to improve its use.																																																																																																
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2024 추계 대한재활의학회

Predictive Value of Cognitive Function and ALT for Functional Ambulation Gain in MCA Stroke Patients

P-36	Predictive Value of Cognitive Function and ALT for Functional Ambulation Gain in MCA Stroke Patients																																																						
Name Jeon*, Taeksoon Jeong, Doo Young Kim*	Department of Rehabilitation Medicine, International St. Mary's Hospital, Catholic Kwandong University College of Medicine, Incheon 22771, Korea																																																						
Introduction																																																							
Stroke is a leading cause of disability, significantly impacting mobility. Effective rehabilitation depends on accurate predictors of recovery. Recent studies suggest that both cognitive function and certain initial laboratory biomarkers, such as aspartate transaminase (ALT), could be crucial for predicting recovery outcomes. This study investigates how cognitive function and ALT levels can predict functional ambulation in survivors of middle cerebral artery (MCA) stroke.																																																							
Method																																																							
<p>This retrospective study analyzed 87 patients who experienced a first-time middle cerebral artery (MCA) stroke and began rehabilitation within 30 days of their stroke, between June 2016 and June 2023 at a university hospital. Key covariates such as age, sex, National Institutes of Health Stroke Scale (NIHSS), Berg Balance Scale (BBS), Mini-Mental State Examination (MMSE), and education duration were included.</p> <p>Participants : The study included MCA stroke patients who were initially non-ambulatory and excluded those with conditions that could affect gait, such as musculoskeletal disorders, quadriplegia, or other brain region strokes. The total study population was 87 individuals.</p> <p>Outcome Variables : The primary outcome was whether the patient achieved functional ambulation, measured using the Functional Ambulation Categories (FAC) score, after short-term rehabilitation. A FAC score of 3 or higher indicated functional ambulation.</p> <p>Data Analysis : To identify predictors of ambulation recovery, multivariate binary logistic regression was used. Covariates like comorbidities, stroke type, lesion size, balance, and cognitive function were factored into the model.</p>																																																							
Results																																																							
<p>Comparison of General Characteristics and Group Outcomes (Table 1)</p> <p>The study found that individuals who did not achieve functional ambulation were older (69.4 vs. 61.2 years, $p = 0.004$) and had lower initial BBS ($p < 0.001$) and MMSE scores compared to those who regained ambulation ($p < 0.001$). Men were more likely to achieve ambulation ($p = 0.001$). Extremely low ALT levels were associated with poor functional ambulation outcomes ($p = 0.014$). Among 32 participants with aphasia, all had hemiparesis, whereas none had aphasia incidence showed no significant difference between groups.</p>																																																							
<p>Table 1. General Characteristics and Comparison between MCA and Stroke Groups</p> <table border="1"> <thead> <tr> <th></th> <th>Total (n=87)</th> <th>MCA (n=42)</th> <th>Stroke (n=45)</th> </tr> </thead> <tbody> <tr> <td>Age, n (%)</td> <td>69.4 (11.2)</td> <td>72.7 (27.6)</td> <td>66.2 (15.5)</td> </tr> <tr> <td>Male, n (%)</td> <td>41 (47.1)</td> <td>20 (47.6)</td> <td>21 (46.7)</td> </tr> <tr> <td>Education duration, yr</td> <td>10.73±2.26</td> <td>13.53±2.35</td> <td>9.75±2.1</td> </tr> <tr> <td>Values, mean ± standard deviation. MCA, Middle cerebral artery stroke; MMSE, Mini-Mental State Examination.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Total (n=87)	MCA (n=42)	Stroke (n=45)	Age, n (%)	69.4 (11.2)	72.7 (27.6)	66.2 (15.5)	Male, n (%)	41 (47.1)	20 (47.6)	21 (46.7)	Education duration, yr	10.73±2.26	13.53±2.35	9.75±2.1	Values, mean ± standard deviation. MCA, Middle cerebral artery stroke; MMSE, Mini-Mental State Examination.																																					
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<p>Table 2. Results of the Usability Questionnaire (Scaled to 5 Points)</p> <table border="1"> <thead> <tr> <th></th> <th>Total</th> <th>Male</th> <th>Female</th> <th>Education</th> <th>Education</th> </tr> <tr> <th></th> <th>(n=87)</th> <th>(n=42)</th> <th>(n=45)</th> <th>(n=35)</th> <th>(n=52)</th> </tr> </thead> <tbody> <tr> <td>Equity and Intuitive Use</td> <td>4.9±0.2</td> <td>4.44±0.06</td> <td>5.88±1.05</td> <td>5.62±0.02</td> <td>4.2±0.22</td> </tr> <tr> <td>Product Satisfaction</td> <td>3.86±0.08</td> <td>4.33±0.58</td> <td>3.69±1.07</td> <td>4.74±1.17</td> <td>3.5±0.61</td> </tr> <tr> <td>Overall Rating</td> <td>3.86±0.08</td> <td>4.72±0.29</td> <td>2.72±0.87</td> <td>3.42±1.42</td> <td>2.38±0.48</td> </tr> <tr> <td>Product Evaluation</td> <td>4.32±0.06</td> <td>4.67±0.56</td> <td>4.19±1.07</td> <td>4.67±0.52</td> <td>3.93±1.24</td> </tr> <tr> <td>Product Satisfaction</td> <td>4.0±0.08</td> <td>4.5±0.87</td> <td>4.13±0.64</td> <td>4.58±0.64</td> <td>3.8±0.45</td> </tr> <tr> <td>Overall Rating</td> <td>4.0±0.08</td> <td>4.6±0.69</td> <td>3.78±0.96</td> <td>4.37±0.79</td> <td>3.56±0.67</td> </tr> <tr> <td>Values, mean ± standard deviation.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Total	Male	Female	Education	Education		(n=87)	(n=42)	(n=45)	(n=35)	(n=52)	Equity and Intuitive Use	4.9±0.2	4.44±0.06	5.88±1.05	5.62±0.02	4.2±0.22	Product Satisfaction	3.86±0.08	4.33±0.58	3.69±1.07	4.74±1.17	3.5±0.61	Overall Rating	3.86±0.08	4.72±0.29	2.72±0.87	3.42±1.42	2.38±0.48	Product Evaluation	4.32±0.06	4.67±0.56	4.19±1.07	4.67±0.52	3.93±1.24	Product Satisfaction	4.0±0.08	4.5±0.87	4.13±0.64	4.58±0.64	3.8±0.45	Overall Rating	4.0±0.08	4.6±0.69	3.78±0.96	4.37±0.79	3.56±0.67	Values, mean ± standard deviation.					
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Conclusion																																																							
Extremely low ALT levels, indicative of frailty, significantly predict poor recovery in MCA stroke patients. This study underscores the importance of routine biomarkers and cognitive assessments in enhancing prognostic accuracy and tailoring rehabilitation strategies to improve patient outcomes.																																																							
Acknowledgement																																																							
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CORE COMPETENCIES

임상연구 전문 역량

다기관 임상시험 운영

데이터 관리

IRB · CRIS 관리

임상시험 문서 관리

대상자 모집·관리

학술 논문 작성

연구비 집행·관리

학회 발표

AI & 디지털 헬스케어

AI 툴 활용
ChatGPT · Claude 등

디지털 치료제
임상연구 경험

디자인·협업 도구
Figma · Workspace

문헌 분석
AI 기반 리서치

*p<0.05, ALT: Altinase Activating Enzyme, BBS: Berg Balance Scale, Early CT Score: Early CT Score, BII: Berg Balance Scale, NIHSS: National Institutes of Health Stroke Scale, MMSE: Mini-Mental State Examination, NIHSS: National Institutes of Health Stroke Scale, CCI: Charlson Comorbidity Index, FAC: Functional Ambulation Capacity, MCA: Middle cerebral artery.

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Conclusion

Extremely low ALT levels, indicative of frailty, significantly predict poor recovery in MCA stroke patients. This study underscores the importance of routine biomarkers and cognitive assessments in enhancing prognostic accuracy and tailoring rehabilitation strategies to improve patient outcomes.

Acknowledgement

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