



Enhancing Inpatient Pain Management in an Orthopedic Ward: A Novel Approach Through The Smart Hospital Room System



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I . Introduction

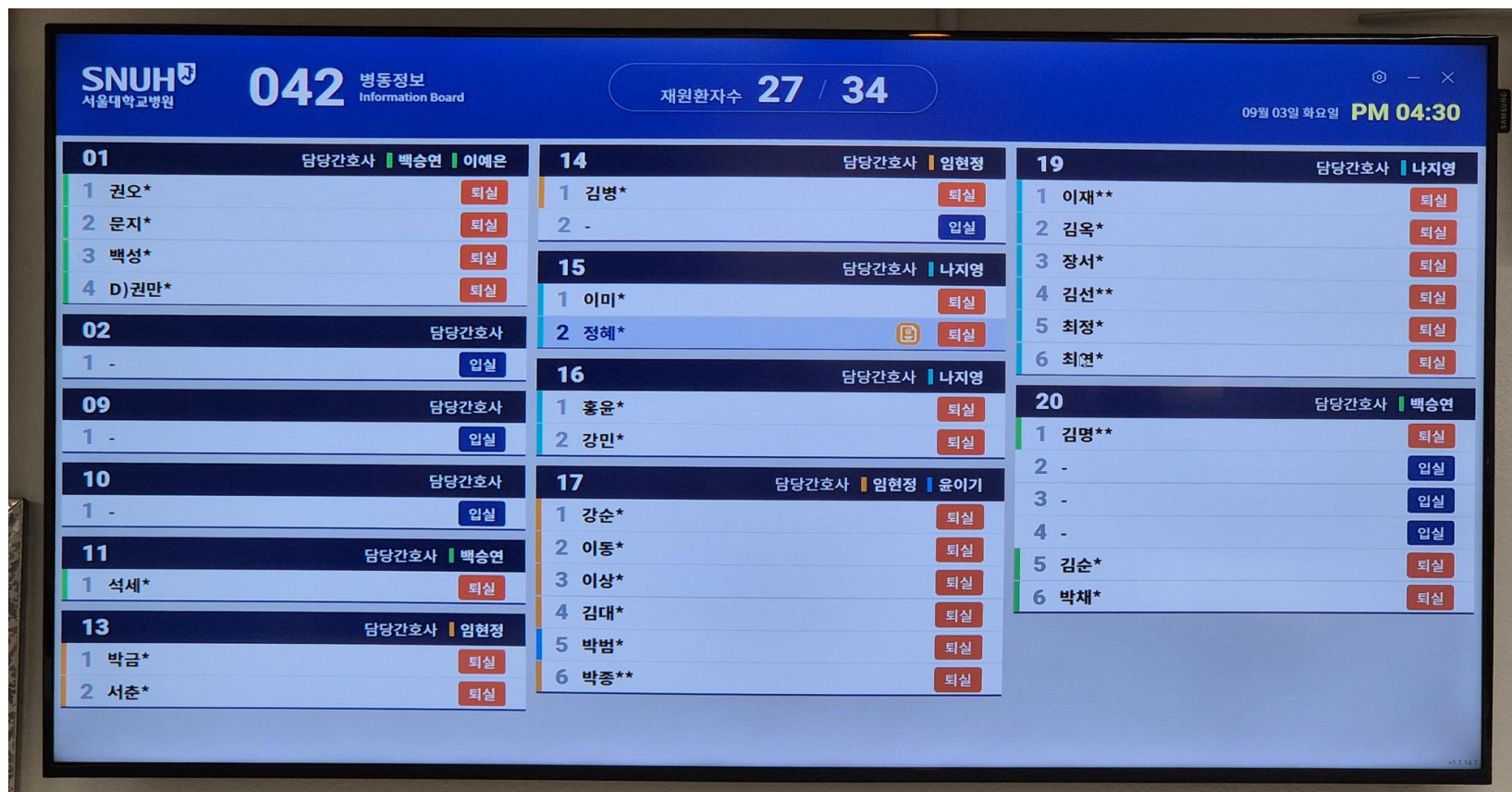
- Effective pain management is pivotal for optimizing the inpatient experience, particularly post-surgery in orthopedic wards. Moreover, the prompt response of medical staff to pain medication needs is crucial in inpatient pain control.
- This project, part of the Ministry of Health and Welfare's 'Smart Hospital Leading Model Project', launched the 'Smart Hospital Room System' in an orthopedic ward to establish a patient-centered communication platform. The system has utilized tablet-PC for inpatients and a central dashboard monitor for medical staff, aiming to provide customized services promptly.



A. Tablet-PC



B. Ward Signage



C. Central Dashboard Monitor

The Smart Hospital Room System is kind of patient-centered digital communication platform, consists of table-pc for patients, room signage of the ward and a central dashboard monitor.

II . Aim

- The objectives of our project were
- 1) to develop indicators reflecting the current use of the Smart Hospital Room System by medical staff and patients, as it is in the early stages of implementation,
- 2) to devise strategies to encourage inpatients to actively use the menu for requesting painkillers to enhance pain control, and
- 3) to utilize the Smart Hospital Room System for active communication between medical staff and inpatients to improve overall patient experience related to pain control.

III. Methods

- Through the Task Force Team (TFT), an investigation was conducted to assess the usage status and improvement directions for medical staff and patients related to the Smart Hospital Room System. The identified reasons for low system use for pain control were a lack of understanding of the newly introduced system and difficulties in the painkiller request menu.
- Developed indicators include the frequency of the Smart Hospital Room System use by medical staff, satisfaction with work related to the system, the number of painkiller request menus used by patients, and the patient experience score related to inpatient pain control.
- These indicators were monitored for 8 months, accompanied by improvement activities involving the development of leaflets for the Smart Hospital Room System use, a video playback system for a dedicated bulletin board, visualization aids in tablet-PC for inpatients, and the establishment of a delivery pop-up for inpatient painkiller requests.

○ Development of leaflets

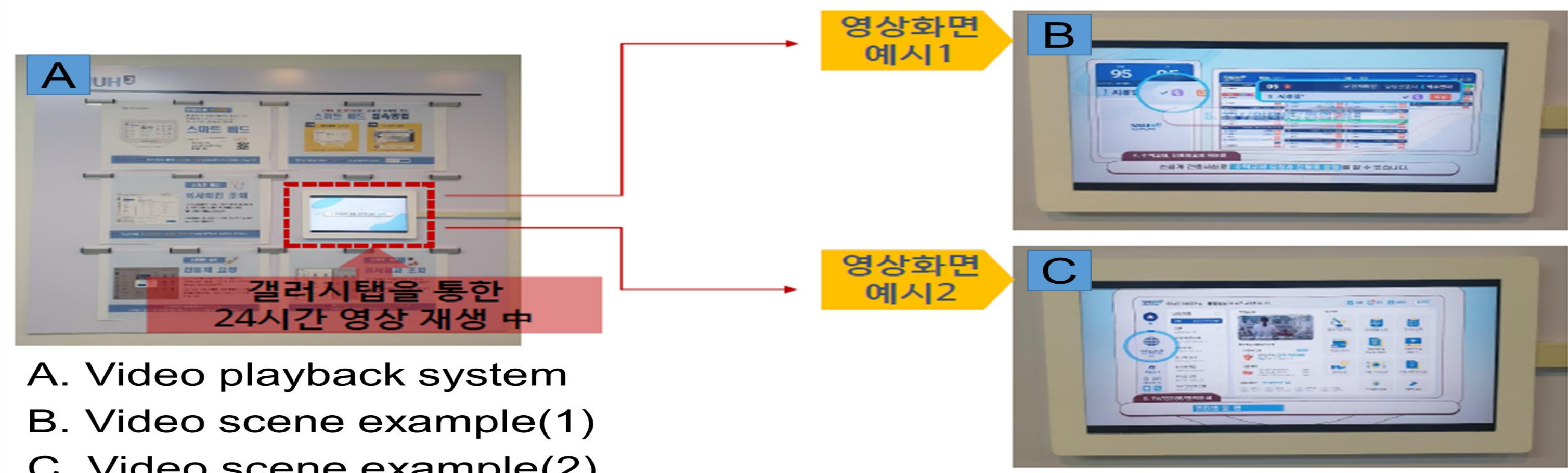


A. Leaflet front side

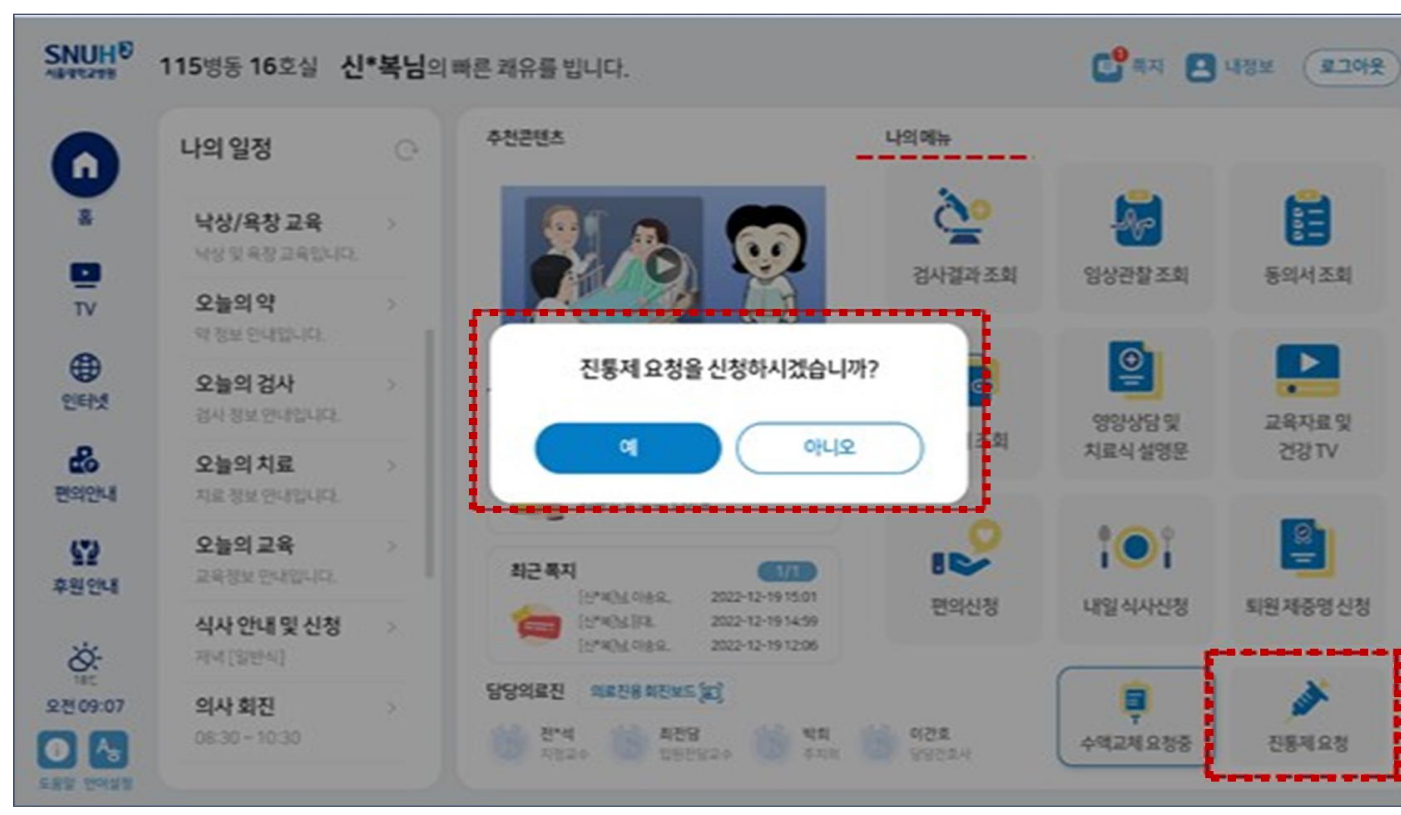


B. Leaflet back side

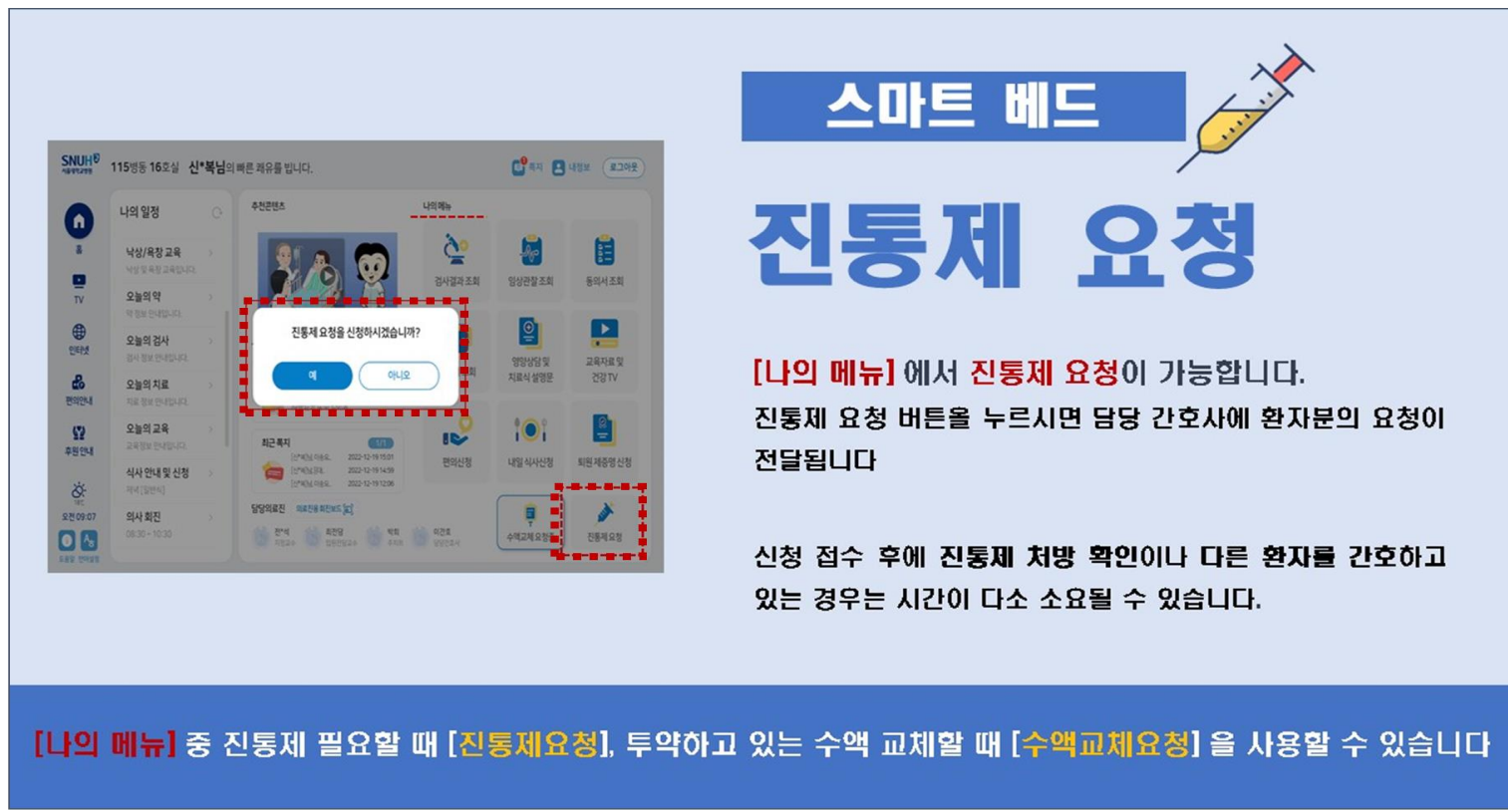
○ Video playback system



○ Visualization aids in tablet-PC

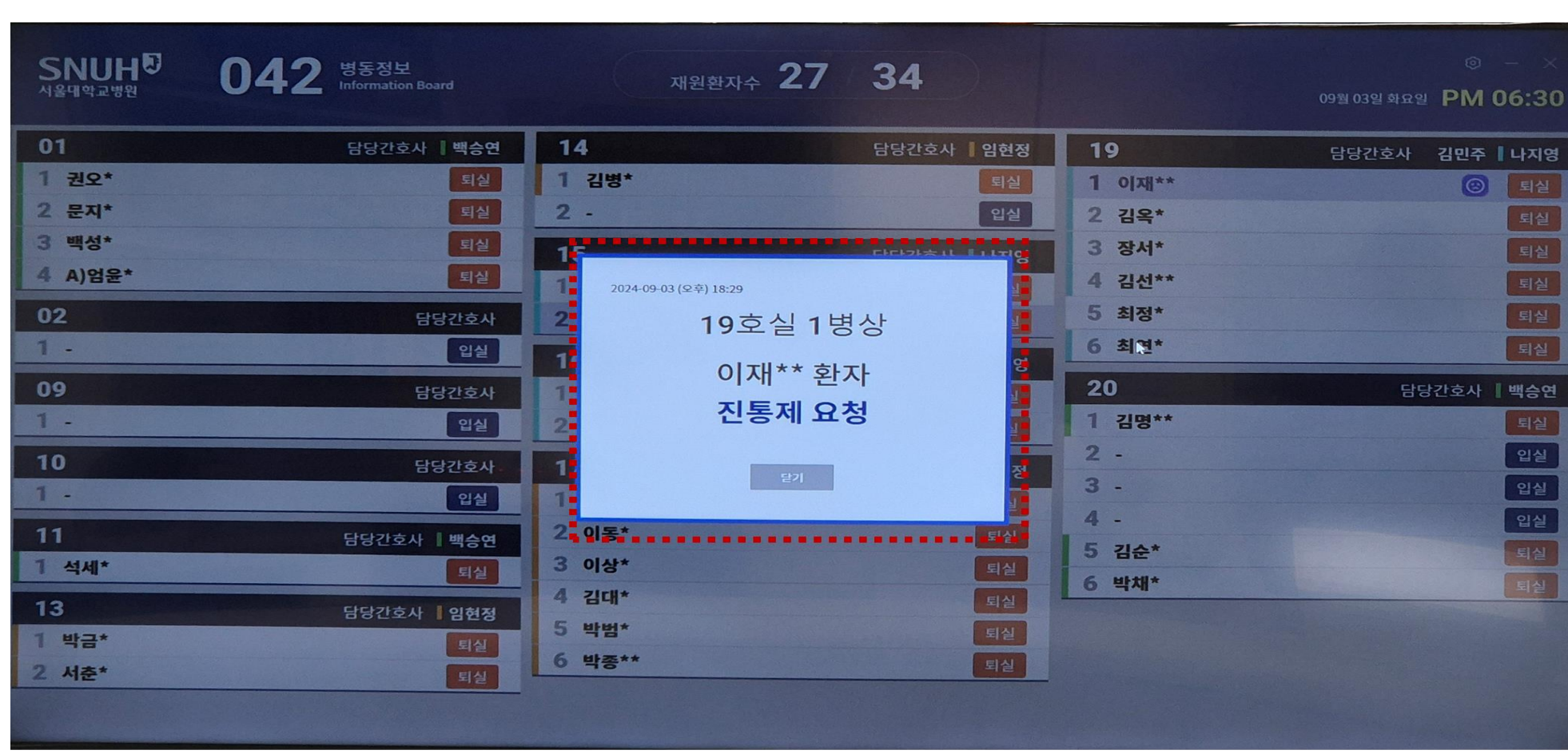


A. Painkillers-requesting icon

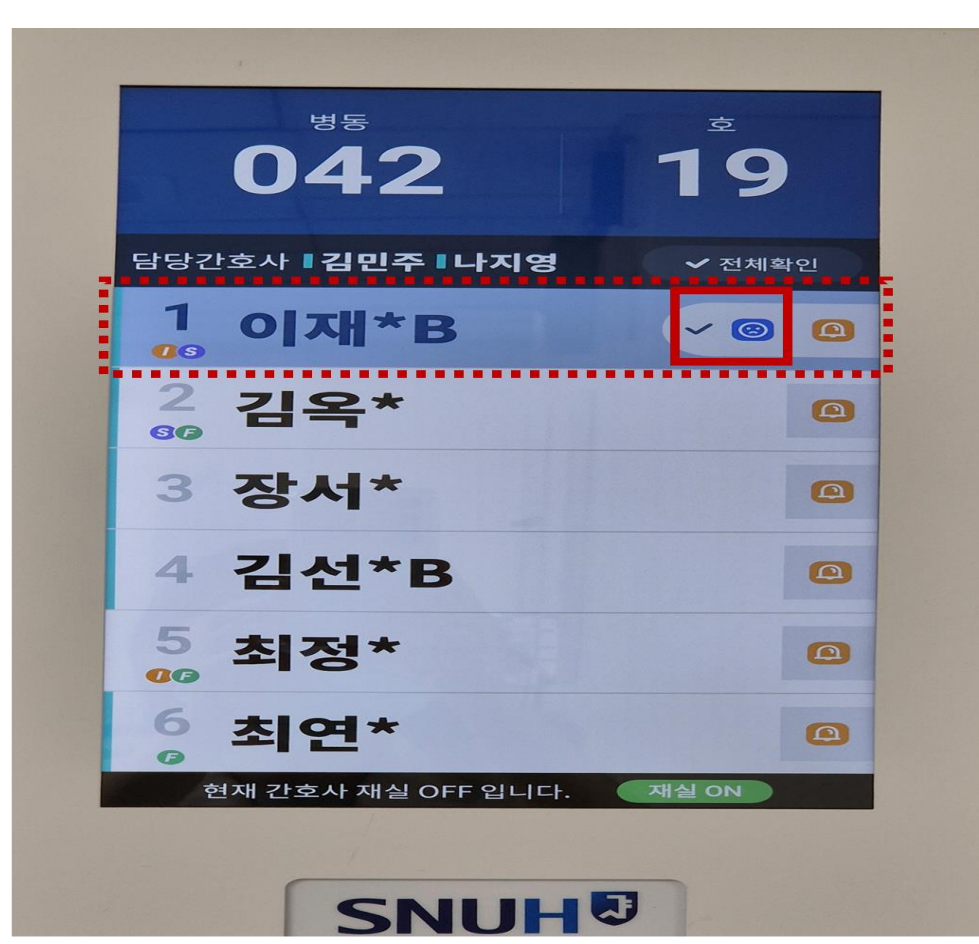


B. Guide for painkillers-requesting icon

○ Delivery pop-up for painkiller requests



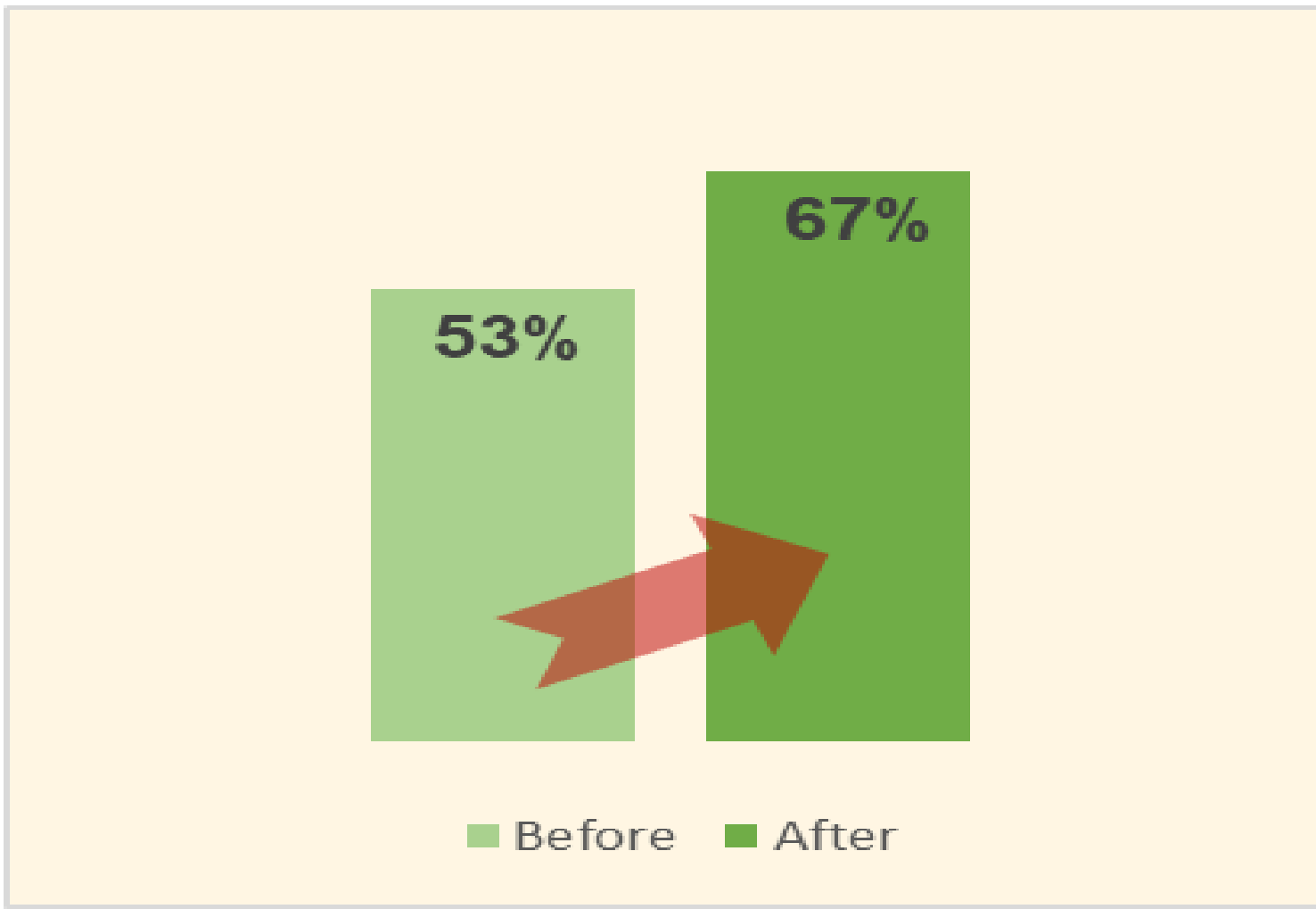
A. Painkillers-requesting pop-up



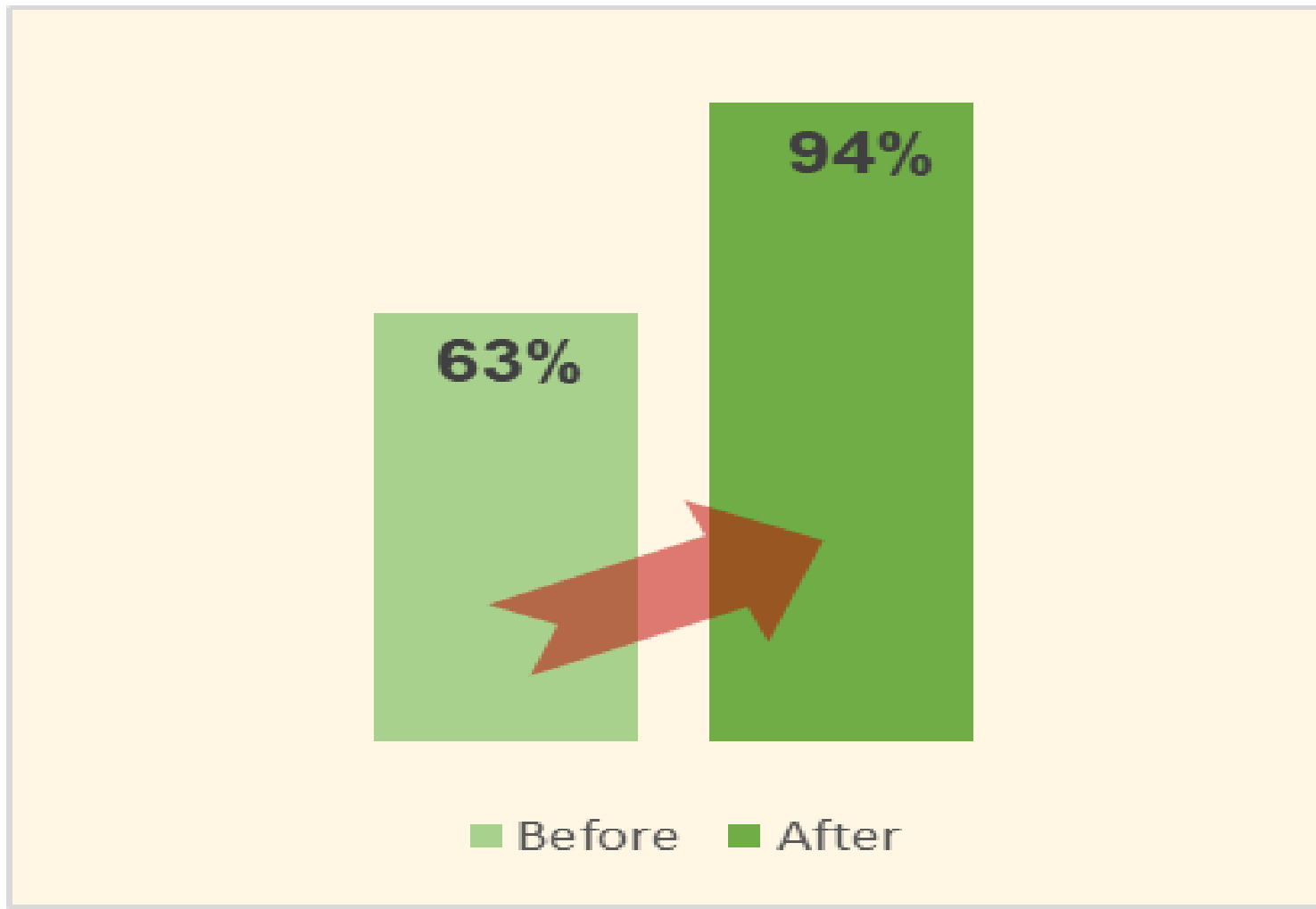
B. Painkillers-requesting signage

IV. Result

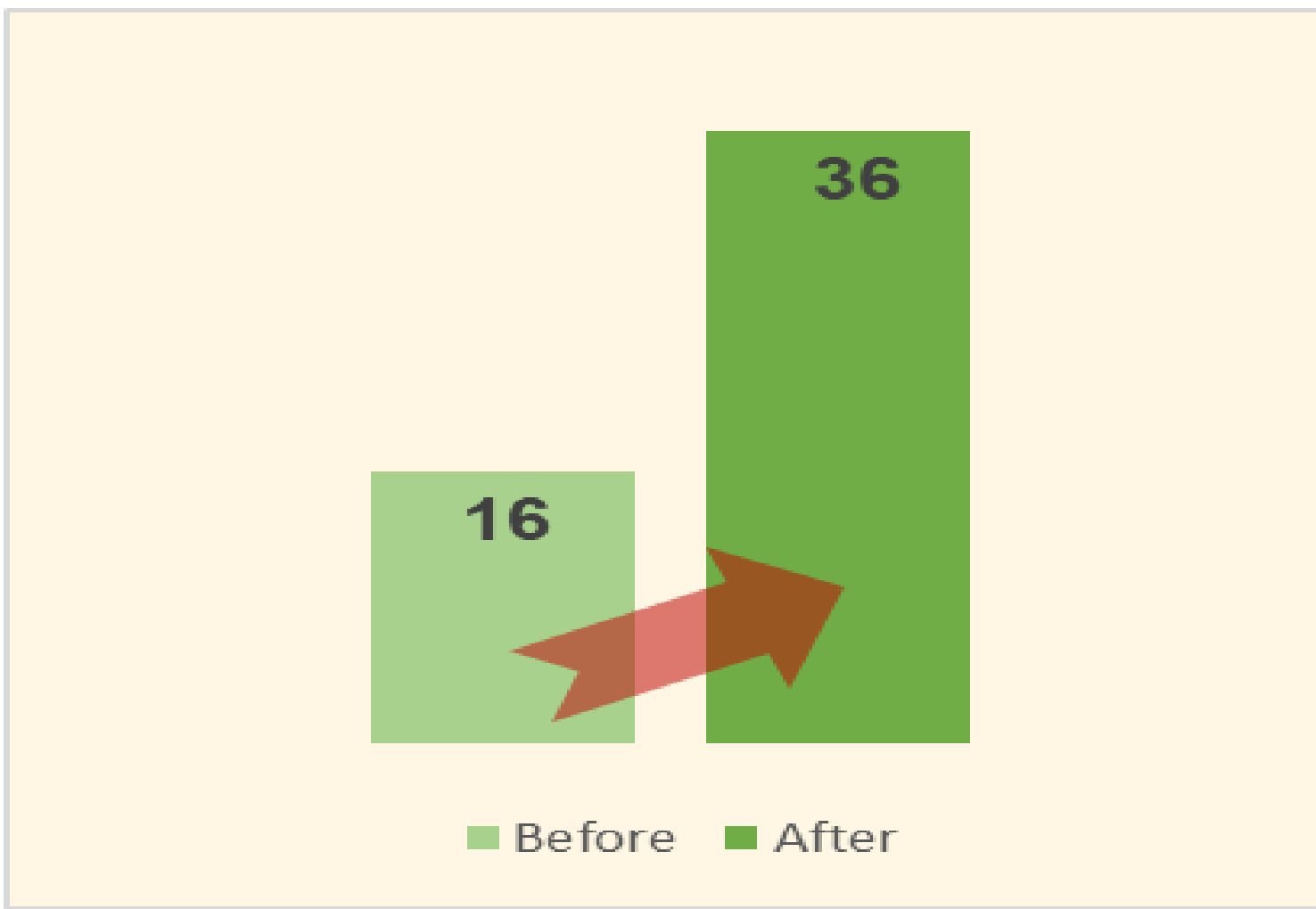
- Results indicated positive outcomes:
- 1) The frequency of medical staff's utilization of the Smart Hospital Room System (usage rate of 3 to 4 times a week) improved from 53% to 67%.
- 2) Satisfaction with tasks related to the Smart Hospital Room System (response rate indicating normal or above-average improvement in work efficiency) increased from 63% to 94%.
- 3) The number of times patients used the painkiller request menu in the Smart Hospital Room System increased from 16 to 36 per month.
- 4) Ultimately, the patient experience evaluation score related to inpatient pain control improved from 84.9 to 87.8 points.



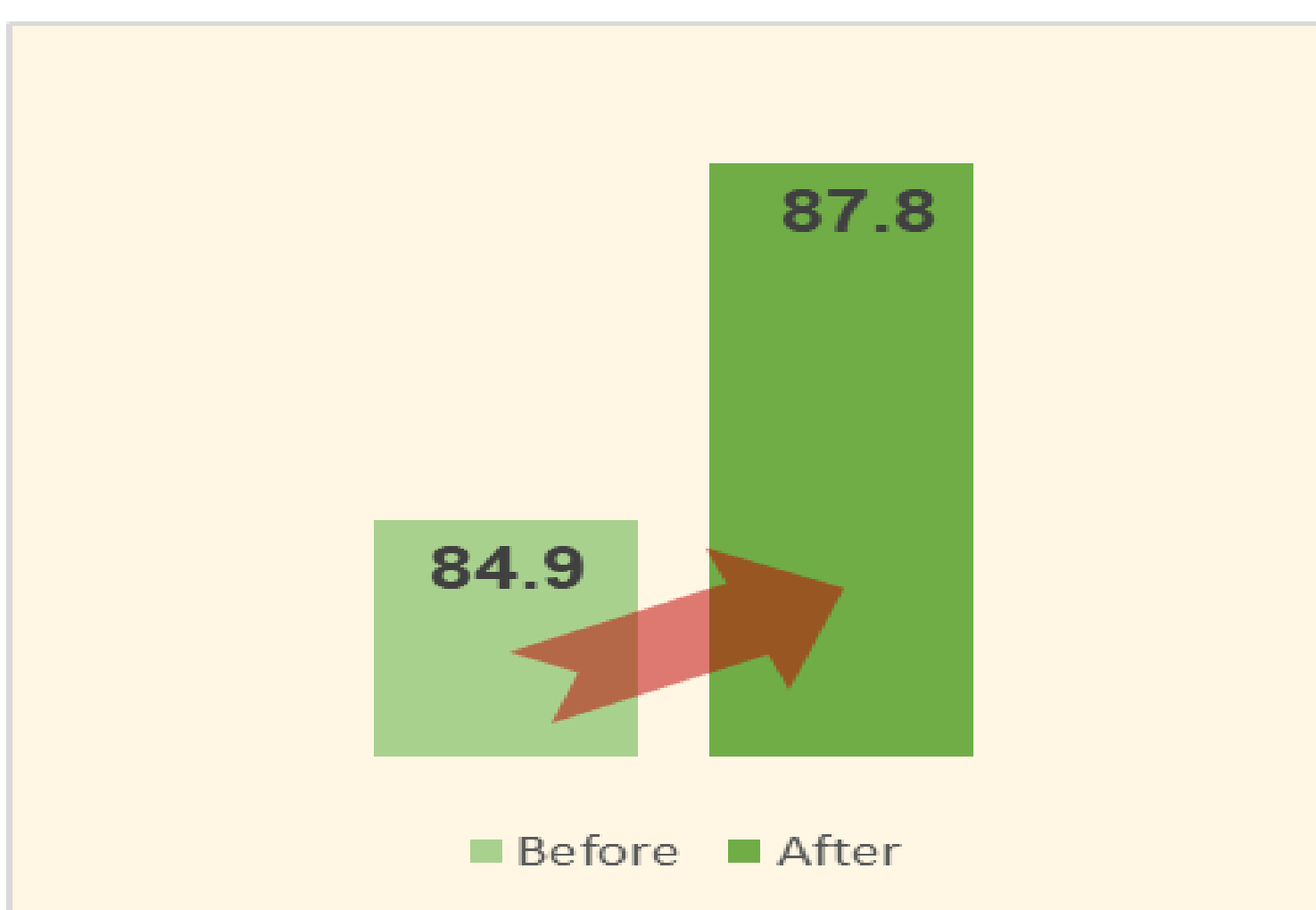
1) Frequency of medical staff's utilization of the Smart Hospital Room System



2) Satisfaction with tasks related to the Smart Hospital Room System



3) Number of times patients used the painkiller request menu



4) Patient experience evaluation score related to inpatient pain control

V. Conclusion

- This project highlights the successful implementation of indicators and improvement activities in an orthopedic ward, affirming the positive impact of the Smart Hospital Room System on patient experience by efficiently addressing pain management needs.
- Additionally, the initial need for continuous efforts to revitalize system use was experienced, confirming positive results in improving patient experience for each system function.