

**Summary of Impact of Residents' Quality-of-Life on
Environmental Design in Japan's Group Care Units
-Utilizing the Environmental Assessment Tool-High Care-**

Physical environment has shown a particularly noteworthy aid in caring for older adults with dementia¹⁻⁴. As dementia progresses, older adults tend to find their quality of life (QOL) rooted in their environment⁵. Through therapeutic environmental design, the well-being and functionality of persons with dementia can be positively affected¹⁻⁴. Japan's "welfare-based nursing homes for the elderly (*Unit-gata Tokuyo* in Japanese)" are gradually moving towards a small-scale group living concept called a group care unit (GCU). Currently, there are no appropriate environmental instruments available for evaluating Japan's GCUs to help enhance residents' QOL.

Study 1: Selecting an Appropriate Environment Instrument for Group Care Units

The purpose of this study was to determine the most appropriate environmental scale for GCUs in "welfare-based nursing homes for the elderly." Literature for environmental scales published within the last 20 years were examined. The timing coincides with the expansion of using person-centered care concepts in the care of older adults with dementia. There were 19 meaningful environmental scales found in the publications since year 2000⁶. Using the 3 listed criteria below 5 of the 19 scales were deemed to be relevant for this study. Inclusion criteria as follows: (1) validated scale; (2) scales used in residential care settings; and (3) scales focused on residents with dementia. After examining the five, *Environmental Assessment Tool-High Care* (EAT-HC) was deemed to be the most appropriate for small-scale group living facilities for residents with cognitive/physical impairments. It was also considered easier for the care staff to use in their own facility.

Study 2: Validation of the EAT-HC-Japanese Version:

The purpose of this study was to assess the reliability and validity of the Japanese version of EAT-HC and its use in small-scale group living facilities. Content validity was examined by 12 aging experts and item-level content-validity index and Aiken's V value were analyzed. Two independent researchers assessed 30 GCUs using Japanese version of EAT-HC, PEAP, PEAP Japan Version3, and TESS-NH/RC for concurrent validity. Interobserver agreement, intra class correlation coefficient, and homogeneity reliability coefficient value were also calculated for its reliability. Validation of the Japanese version of EAT-HC (EAT-HC-JV) was confirmed to be an appropriate instrument to evaluate Japan's GCUs and assist in the support of residents' QOL.

Study3: Impact of Residents' Quality of Life on Unit Environment and Their Positive Engagement

This study examined and explored the relationship between environmental design in a GCU and resident's positive engagement as well as the impact on the residents' QOL. For environment assessment, two independent researchers evaluated 29 GCUs using EAT-HC-JV. For residents' QOL assessment, a total of 101 residents were observed using dementia care mapping method and residents' *positive engagement* codes were calculated. Recorded resident's Mood/Engagement value were used as QOL indicators. Hierarchical linear model (HLM) was used to statistically analyze a data structure where residents (level-1) were nested within units (level-2). The HLM analysis demonstrated units with higher total environment scores showed higher QOL. When the total environment score is low even though the residents' *positive engagement* is high, there is no correlated impact upon their QOL.

Limitations and Recommendations for Future Study

All facility and resident data for this study were garnered from the regions around Kanto area (Tokyo). Therefore, regional characteristics exist in environment data. Future studies must include rural samples to compile an accurate cross section of

data and plans to develop the EAT-HC Japan version to adapt cultural aspects from the original version of EAT-HC that were verified in this study.

References

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