SYNOPSIS

KEY POINT SUMMARY

OBJECTIVES

The objective of this study was to assess the relationship between Quality of Life in residents with severe dementia and environmental factors in nursing homes - temperature, noise, and lighting levels.

Environmental determinants of quality of life in nursing home residents with severe dementia

Garre-Olmo, J., López-Pousa, S., Turon-Estrada, A., Juvinyà, D., Ballester, D., & Vilalta-Franch, J. 2012 | *Journal of the American Geriatrics Society*. Volume 60, Issue 7, Pages 1230-1236

Key Concepts/Context

Studies show that more than 50% of the residents in nursing homes suffer from moderate or severe dementia. The authors refer to literature that indicates that in the last 20 years, the culture of imparting care in nursing homes has evolved from a focus on safety, uniformity, and medical concerns to health promotion and Quality of Life (QOL). Literature, according to the authors, indicates that dementia patients benefit from environmental interventions. This study examined the relationship between the QOL of patients suffering from dementia and temperature, noise, and lighting in nursing homes in Spain. The study found that environmental factors like temperature, noise, and light levels are associated with QOL of residents.

Methods

This research used a cross-sectional design. The participants were patients with severe dementia who were randomly selected from eight long-term care nursing homes. From each institution, 20 patient participants were recruited. Patient data pertaining to demographics and dementia diagnosis were obtained from medical records. Patients were also administered the Mini-Mental State Examination (MMSE). The following questionnaires were administered to 152 nurses: Quality of Life in Late-Stage Dementia (QUALID), the Barthel Index (BI) (to rate levels of independent functioning), the Neuropsychiatric Inventory—Nursing Home (NPI-NH) (measures psychiatric symptoms), and the Pain Assessment in Advanced Dementia (PAIN-AD) (assesses breathing, negative vocalization, facial expressions, body language, and consolability). Structured interviews were also conducted. Temperature, noise, and light levels were measured in each patient participant's bedroom and the dining and living rooms of the nursing homes. Temperature was measured twice in the morning and twice in the afternoons; noise levels were measured five times at five-minute intervals during the morning and afternoon; and

DESIGN IMPLICATIONS

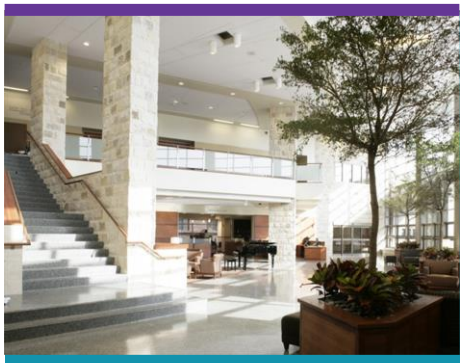
Authors suggest simple interventions that help manage temperature, noise and light levels in rooms and common spaces may enhance the QOL of dementia patients in nursing home facilities.

light levels were recorded four times in the mornings and four times in the afternoons. Data were analyzed statistically (descriptive, bivariate, multivariate, correlation, and linear regression analyses).

Findings

The study yielded the following findings:

- The mean daily temperature for all rooms was 25.8 ± 1.3◦C; the mean noise level was 48.5 ± 6.1 dB, and mean light level was 362.8 ± 240.5 Lux.
- The Quality of Life (QUALID) score was significantly correlated with the noise levels in the bedroom (P=0.01) and light levels in the dining room (P=0.04), but was not associated with temperature.
- Individual dimensions of QOL were associated significantly as follows:
    - Behavioral signs of discomfort with
        - Temperature in the bedroom (P=0.05)
        - Hours spent in the bedroom (P=0.03)
        - Hours spent in the dining room (P=0.03)
        - Light in the living room (P=0.03)
        - Hours spent in the living room (P=0.04)
    - Behavioral signs of social interaction with
        - Light in the bedroom (P=0.04)
        - Hours spent in the bedroom (P=0.006)
        - Light in the dining room (P=0.02)
        - Hours spent in the dining room (P=0.02)
        - Light in the living room (P=0.047)
        - Hours spent in the living room (P=0.048)
    - Signs of negative affective mood with
        - Hours spent in the bedroom (P=0.05)
        - Hours spent in the dining room (P=0.008)
        - Light in the living room (P=0.01)



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Limitations

The authors consider the following to be limitations of their study:

- Time of the study (late spring and summer), as environmental characteristics, may have changed.
- Causality could not be established given the cross-sectional and observational design of the study.
- Environmental measurements were taken at only two times of the day – morning and afternoon for each participant; averages were measured only in the common spaces. Participant experiences were not measured in the common spaces.
- The results are not generalizable to other population groups as effects of temperature may vary by climate and that of noise by culture.

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