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## **Pain as a Risk Factor for Care Dependency in Older Nursing Home Residents: A Prospective Cohort Study.**

### **Introduction**

Maintenance of independence is a challenge for nursing home residents whose pain is often substantial. The objective of this study was to explore the effect of pain on care dependency in a population of Dutch nursing home residents.

### **Methods**

In this prospective cohort study, Dutch nursing home residents aged 65 or older were included. Residents with a severe cognitive impairment were excluded. The Numeric Rating Scale (NRS) was used to rate pain perception from 0 to 10 in half-point increments and the Care Dependency Scale (CDS) to measure care dependency, with scores ranging from 15 (completely care dependent) to 75 (fully independent). Both measurements were repeated after a 2-month follow-up. Multiple linear regression analysis was used to adjust for potential confounders. Missing data were dealt with by performing tenfold multiple imputation.

### **Results**

A total of 1256 residents (65% women, mean age 83 years) were included. At baseline, the median NRS pain score was 3.0 (interquartile range 0.0-6.0) and the mean CDS score was 55.9 (SD 11.5). Cross-sectionally, for 1-point increase in pain score, care dependency increased 0.65 points (95% confidence interval (CI) 0.46-0.83). More pain at baseline was associated with slightly lower care dependency after 2 months (beta 0.20, 95% CI 0.01-0.39). Compared with residents whose pain decreased over 2 months, residents with stable pain or increased pain had a 2.27-point (95% CI 0.83-3.70) and 2.39-point (95% CI 0.87-3.90) greater increase in care dependency, respectively.

### **Conclusion**

Both cross-sectional and short-term longitudinal change analysis showed pain may be a risk factor for care dependency in older nursing home residents. The effect of adequate pain management on care dependency should be explored in future intervention studies.