Protocol Improved Vitamin D Supplementation

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LONG BEACH, CALIF. — Adherence to a vitamin D supplementation protocol improved from 29% to 87% after 5 months among elderly residents of a 114-bed community-based nursing home.

The quality improvement interventions used in the project could be implemented in other nursing homes, Dr. Mamata Yanamadala and associates reported in a poster presentation at the annual meeting of the American Medical Directors Association.

VITALS

Major Finding: A concerted, multidisciplinary effort increased adherence to vitamin D supplementation in elderly nursing home residents from 29% to 87% after 5 months.

Data Source: Project implemented in a 114-bed community nursing home affiliated with an academic medical center.

Disclosures: The investigators reported having no disclosures.

Previous studies have shown that vitamin D supplementation reduces falls by approximately 22% in nursing home residents and that 700-800 IU of vitamin D supplements are needed per resident per day to reduce the risk of fracture in nursing home populations.

The project employed a FOCUS quality improvement model: find an issue, organize the team, clarify current practice, understand the causes of variation, and select a strategy to effect change.

The Duke University–affiliated nursing home had a per-resident target of 800 IU/day of vitamin D to reduce falls. The team incorporated the medical director, clinicians, the director of nursing, the home's committee on falls, nurses, and a pharmacist. At the start of the project, 30% of residents were receiving at least 800 IU/day of vitamin D. The team set a goal of 80%.

Nurses received education on the importance of vitamin D supplementation and were asked to notify physicians about patients who were not receiving adequate supplementation. To spark competition, graphs at each nurses' station displayed the number of residents currently receiving adequate supplementation, and staff were offered a prize if their unit met the 80% goal.

Pens with the saying "800 D a day Keep Falls Away" were distributed as reminders, and the admissions coordinator put a note in the charts of new patients reminding physicians to start supplementation. The falls committee alerted a physician about any patient who was vitamin D deficient despite receiving 800 IU/day, so that person could start receiving 50,000 IU/day of vitamin D.

The rate of falls averaged 30-40 per month before the project and did not significantly decrease as supplementation rates increased, contrary to findings in previous studies. But the current study was not designed to assess the affect of vitamin D on falls, said Dr. Yanamadala, of Duke University, Durham, N.C.

One of the four nursing units studied, which had high staff turnover, was slow to show progress toward the target, but 5 months after the start of the study, adherence rates on the units ranged from 83% to 91%. Out of 10 patients who kept falling while on 800 IU/day of vitamin D, 3 were found to have deficient serum concentrations of vitamin D.

In a separate poster presentation, Dr. Michael E. Felver of the Cleveland Clinic reported low vitamin D serum concentrations in 97% of 62 patients admitted for subacute care following hospitalization. He called that prevalence "staggeringly high."

His study assessed 142 consecutive admissions to the clinic's Center for Rehabilitation and Post-Acute Care, and screened for vitamin insufficiency in any patient with clinical signs or risk factors for malnutrition but no current diagnosis of vitamin D deficiency.

Screening found that 97% had low vitamin D and 32% had vitamin D deficiency (with deficiency defined as a serum concentration below 20 ng/mL).

Nutritional status seemed to be the best predictor of vitamin D deficiency in this population, which was younger, was more likely to be male, and had a higher average body mass index and shorter length of stay than nursing home residents. Vitamin D amounts used to supplement long-term care residents may not be adequate for this population, Dr. Felver said, noting that most post-acute patients have had a disabling or prolonged episode of acute care and have multiple comorbidities, and many show exacerbations of chronic illnesses. All of this puts them at higher risk, he said. ■

Education Can Boost Rate of VTE Preventive Management

LONG BEACH, CALIF. — An educational intervention led to increased preventive management of venous thromboembolism in residents of long-term care facilities.

Preventive management—assessment of VTE risk and prophylaxis in appropriate patients—was used in 50% of 376 newly admitted residents prior to the intervention and in 82% of 362 new admissions afterward.

VITALS

Major Finding: Distribution of antithrombotic guidelines increased the rate of VTE risk assessment and prophylaxis from 50% to 82% in long-term care settings.

Data Source: Study of 738 newly admitted residents in 17 long-term care facilities.

Disclosures: The investigators reported having no disclosures.

Before the intervention, clinical guidelines on VTE prevention were ignored or misunderstood during the care of 32% of new residents. After the intervention, this occurred during the care of 17% of new residents, Dr. T. S. Dharmarajan and his associates reported in two poster presentations at the annual meeting of the American Medical Directors Association. Inappropriate use of VTE prophylaxis (for example, in a patient already anticoagulated for atrial fibrillation) fell from 23% of assessed residents to 13%.

No guidelines for VTE prevention are written specifically for long-term care settings, and the scope of acute VTE and pulmonary embolism in long-term care residents is unknown, said Dr. Dharmarajan of Montefiore Medical Center, New York.

Researchers surveyed clinicians at 17 long-term care facilities in nine states about their VTE prevention practices. Participating clinicians received copies of guidelines issued in 2008 by the American College of Chest Physicians for VTE prevention in hospitalized patients and an antithrombotic "toolkit" developed by the American Medical Directors Association.

After this educational intervention, the likelihood that a new resident would be assessed or given prophylaxis for VTE increased 14-fold in a logistic regression modeling analysis, Dr. Dharmarajan reported. Listing contraindications as a reason for not providing prophylaxis against VTE fell by 67%.

Significant changes in prophylaxis choices after the intervention included less reliance on aspirin alone (18% after vs. 36% before) and more reliance on compression devices alone (4% vs. 0%) or ambulation alone (55% vs. 39%). Common prophylactic measures that did not change significantly included the use of warfarin, heparin, low-molecular-weight heparin, fondaparinux, or stockings. ■

At youtube.com/ElsGlobalMedicalNews, click on Uploads, search for Dharmarajan.

Four Factors Trigger Nursing Home Residents to Reject Care

LONG BEACH, CALIF. — Rejection of care by nursing home residents was associated with four potentially modifiable factors in an analysis of data on 3,230 residents.

Clinicians should screen for the conditions—delusion, delirium, minor or major depression, and severe or worse pain—when residents reject care such as blood work, taking medications, and assistance with activities of daily living, Dr. Shinya Ishii and associates reported in a prize-winning poster presentation at the annual meeting of the American Medical Directors Association.

If the associations seen in the study are causal, appropriate interventions may improve residents' willingness to accept care, the researchers suggested.

The team analyzed data on residents scheduled for Minimum Data Set assessments in 71 nursing homes in eight states. Nurses identified residents who were rejecting care.

The likelihood of doing so increased fourfold in the presence of delusion and doubled with delirium, depression, or severe to "horrible" pain, reported Dr. Ishii of the Department of Veterans Affairs' Geriatric Research Education and Clinical Center, Los Angeles.

Among the 312 residents who exhibited rejection-of-care behaviors, 18% had delusions, 35% had delirium, 32% had minor depression, 15% had major depression, and 30% had severe-to-horrible pain. Some symptoms overlapped.

An attributable-risk analysis suggested that 19% of care-rejecting behavior could be eliminated if delusions were stopped and that 5% of care rejection might end if delirium were reversed. Treating minor depression might eliminate 7% of care-rejecting behavior, reversing major depression might eliminate 10% of care-rejecting behavior, and ending severe or worse pain might eliminate 5% of care-rejecting behavior, Dr. Ishii reported.

Several covariates also were associated with rejection of care, including being male and having moderate or severe cognitive impairment.

Factors that were not associated with rejection of care included hallucination, mild to moderate pain, hearing and vision impairment, and infections (including urinary tract infection, pneumonia, wound infection, HIV, tuberculosis, and viral hepatitis).

The large, geographically diverse sample of residents strengthened the findings of the study, but its cross-sectional design did not allow examination of temporal sequences, the investigators noted. Also, the lack of any significant association between care rejection and infection might be attributable to different time frames for reporting infection, compared with those governing the other variables. ■

Disclosures: *The investigators reported having no disclosures.*