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Putting Evidence Into Practice

Benefits of Individualized Discharge Plans for Hospitalized Patients

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Clinical Question

Do individualized discharge plans shorten the length of hospital stays or reduce hospital readmission rates?

Evidence-Based Answer

Older patients (i.e., 60 to 84 years of age) who are hospitalized but not undergoing surgery and who have individualized discharge plans have shorter hospital stays compared with patients who receive standard care only (mean difference = −0.73 days; 95% CI, −1.33 to −0.12). (Strength of Recommendation [SOR]: B, inconsistent or limited-quality patient-oriented evidence.) Patients with individualized discharge plans have lower rates of unscheduled hospital readmissions during an average of three months of follow-up (absolute risk reduction [ARR] = 2.9%; 95% CI, 0.8% to 7.1%; number needed to treat [NNT] = 34; 95% CI, 14 to 125).[1] (SOR: B, inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

Delays in hospital discharge occur when a patient is medically fit to be discharged home or to another setting, but arrangements for transfer and subsequent care are not in place. In the United States in 2014, the average length of stay for any hospital admission was 6.1 days, and in government-affiliated hospitals it was 10.3 days.[2] Delayed discharges place a significant burden on the health care system by decreasing the number of available hospital beds. They lead to worse patient outcomes, can cause distress to patients and their families, and increase overall health care costs.[3,4] Individualized discharge plans may decrease the duration of hospital stays and reduce the risk of hospital readmissions by reconciling treatment plans, educating patients and families, and facilitating outpatient follow-up.[1,3,4]

This Cochrane review included 33 randomized controlled trials, 13 of which were conducted in the United States, five in the United Kingdom, three in Canada, and the remaining in Europe, Asia, and South America. There were 12,242 participants with an average age ranging from 60 to 84 years. Follow-up ranged from two weeks to nine months, with an average of three months. Exclusion criteria in most trials involved additional interventions, including the delivery of post-discharge care; discharge planning that was part of a multicomponent intervention; or the involvement of discharge plans for the comparison group. Primary outcomes included length of hospital stay, unscheduled readmissions, patient health status (e.g., mortality, functional status, psychological health), patient satisfaction, and health care resource costs.

Individualized discharge plans included the documentation of an inpatient assessment tailored to patient needs and communication between patients, their families, and relevant medical professionals about the discharge plan. Of the 33 trials included in the study, 30 incorporated an education component that provided patients with information about their health condition, medications, and post-discharge arrangements. The control groups received standard care with no individualized discharge plan.

In older adults who were hospitalized and not undergoing surgery, implementation of an individualized discharge plan decreased the mean length of hospital stay (−0.73 days; 95% CI, −1.33 to −0.12; n = 2,113) compared with no individualized discharge plan. Patients admitted following surgery, or with any condition including surgery, had little to no improvement in the length of hospital stay when individualized

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discharge planning was implemented. Of the 17 trials that assessed unscheduled readmission rates, 10 showed lower readmission rates (in an average of three months from discharge) for patients with individualized discharge plans (ARR = 2.9%; 95% CI, 0.8% to 7.1%; NNT = 34; 95% CI, 14 to 125). The review did not demonstrate any clear effect of individualized discharge plans on patient mortality, functional status, or psychological health. It is uncertain whether there was any difference in overall hospital, primary, or community care costs when discharge planning was implemented. Patient satisfaction was measured by different questionnaires, and results were not consistent across the eight studies that measured it.

Limitations of the review included variations in how discharge planning was implemented, because there was no single intervention included in all 33 trials. Most interventions included a patient education component, although there was variation in the personnel implementing the discharge plan (i.e., nurse, pharmacist, discharge coordinator, or physician). A range of medical diagnoses was seen in the included trials (e.g., heart failure, stroke, mental health), and different medical conditions required different levels of discharge needs. Timing of discharge plan implementation varied during the hospital stays.

The National Institute for Health and Care Excellence recommends that all clinicians in hospital and community settings plan hospital discharge with patients and their families, caregivers, or advocates. They should ensure that the discharge is collaborative, patient-centered, and suitably paced so the patient does not feel that their discharge is sudden or premature.[5] To optimize the discharge process, family physicians working in an inpatient hospital setting should consider multidisciplinary, individualized discharge plans for older patients admitted for a medical condition.

The practice recommendations in this activity are available at https://www.cochrane.org/CD000313.

The opinions herein are those of the authors. They do not represent the official policy of the Uniformed Services University of the Health Sciences, the U.S. Department of Defense, or the U.S. Air Force.

Editor's Note: The ARRs, CIs, and NNTs reported in this Cochrane for Clinicians were calculated by the authors based on raw data provided in the original Cochrane review.

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Benefits and Harms of Anticoagulants in People Hospitalized With COVID-19

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Clinical Question

Do anticoagulants reduce the risk of venous thromboembolism or mortality in people hospitalized with COVID-19?

Evidence-Based Answer

In people hospitalized with COVID-19, the use of anticoagulants reduces all-cause mortality (number needed to treat [NNT] = 9; 95% CI, 7.3 to 13). Using a higher dose of anticoagulants may reduce the risk of pulmonary embolism (PE) compared with a lower dose of the same agent (NNT = 56; 95% CI, 44 to 100). Using a higher dose also increases the risk of major bleeding (number needed to harm [NNH] = 100; 95% CI, 42 to 1,000) and minor bleeding (NNH = 50; 95% CI, 10 to 67).[1] (Strength of Recommendation: B, inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

All patients with COVID-19 are at risk of thromboembolic complications, including deep venous thrombosis (DVT) and PE, and bleeding complications.[2] In patients hospitalized with COVID-19, rates of DVT (up to 14.8%) and PE (up to 16.5%)

are much higher than rates of DVT and PE in hospitalized patients in the United States (0.15% for DVT and 0.1% for PE).[3,4] Clotting and bleeding complications associated with COVID-19 may be caused by dysregulation of the coagulation cascade in response to viral infection.[5] The authors of this Cochrane review sought to clarify the benefits and risks of anticoagulation for persons hospitalized with COVID-19.

The review included three nonrandomized studies comparing anticoagulation vs. no anticoagulation and four randomized controlled trials (RCTs) comparing lower vs. higher doses of anticoagulants.[1] Two studies were from Brazil, one from Iran, one from Italy, one from the United States, and two from multiple countries. All seven studies included patients from emergency department, inpatient ward, and intensive care unit settings.

Three studies compared anticoagulation, including low-molecular-weight heparin (LMWH), unfractionated heparin, fondaparinux (Arixtra), direct oral anticoagulants (DOACs), and oral vitamin K antagonists, with no treatment using prophylactic dosing, although 15% of patients in one study received a therapeutic dose of LMWH. Two of the three studies were categorized as being at critical risk of bias because of patient selection and confounding. Although very low-quality evidence causes uncertainty about whether anticoagulants for hospitalized patients with COVID-19 have any effect on the individual outcomes of DVT, PE, or bleeding compared with no anticoagulants, the three studies together suggest that they may reduce all-cause mortality over 15 to 30 days of follow-up (NNT = 9; 95% CI, 7.3 to 13).

Four RCTs compared higher doses of heparins or DOACs with lower doses. There was no evidence of a reduction in all-cause mortality with higher vs. lower doses at 30 or 90 days of follow-up. The low-quality evidence leaves it uncertain whether higher doses of anticoagulants have any effect on the need for additional respiratory support or risk of DVT. However, there is moderate-quality evidence that higher doses of anticoagulants reduce the risk of PE (NNT = 56; 95% CI, 44 to 100) at the cost of increased risk of major bleeding (NNH = 100; 95% CI, 42 to 1,000) over 28 to 30 days of follow-up. There is high-quality evidence from three RCTs that higher doses of anticoagulants increase the risk of minor bleeding (NNH = 50; 95% CI, 10 to 67) over 28 to 30 days of follow-up.

The American College of Chest Physicians (CHEST) recommends anticoagulation with therapeutic doses of unfractionated heparin or LMWH for acutely ill patients hospitalized with COVID-19 at low risk of bleeding, and it recommends prophylactic dosing for all other patients. For critically ill patients with COVID-19, CHEST recommends prophylactic doses of unfractionated heparin or LMWH.[6]

The practice recommendations in this activity are available at https://www.cochrane.org/CD013739.

Editor's Note: The CIs and NNTs reported in this Cochrane for Clinicians were calculated by the author based on raw data provided in the original Cochrane review.

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