Medical Xpress

Weekend hospitalization linked to longer stay for pediatric leukemia patients

August 25 2014

Weekend admission to the hospital for pediatric patients newly diagnosed with leukemia was associated with a longer length of stay, slightly longer wait to start chemotherapy and higher risk for respiratory failure but weekend admissions were not linked to an increased risk for death.

Leukemia is a common childhood cancer that accounts for about 30 percent of all pediatric cancer diagnoses. Previous research has indicated an increased risk of death in adults with leukemia whose first admission was on a weekend. But there has been little investigation of weekend admissions for pediatric leukemia patients.

The authors examined adverse clinical outcomes associated with a weekend admission for the first hospitalization of pediatric patients newly diagnosed with leukemia. The study from 1999 to 2011 used data from the Pediatric Health Information System database. Participants were children newly diagnosed with acute lymphoblastic leukemia (ALL) or acute myeloid leukemia (AML).

The authors identified 10,720 patients with new-onset ALL and 1,323 with new-onset AML. Of those, 2,009 patients (16.7 percent) were admitted on the weekend. Patients admitted on the weekend did not have an increased rate of mortality during their first hospitalization, but they did have an increased length of stay (1.4 day increase), slightly longer time to start chemotherapy (0.36 day increase) and a higher risk for respiratory failure.

"Given the increasing need for cost-effective care in medically complex children, these findings highlight a potential area for improvement in patient care and in cost reduction. Hospitals should consider the increased acuity level of index admissions of pediatric patients with leukemia when determining allocation of weekend staff and clinical resources. Optimizing weekend resources may not only help to reduce hospital LOS (length of stay) across all weekend admissions but may also ensure the availability of comprehensive care for those weekend admissions with higher acuity." Elizabeth K. Goodman, B.A., of the Children's Hospital of Philadelphia, and colleagues wrote in their JAMA Pediatrics article.

In a related editorial, Patrick J. Hagan, M.H.S.A., an independent consultant and former president and chief operating officer of the Seattle Children's Hospital, writes: "In this issue of *JAMA Pediatrics*, Goodman and colleagues have provided a good service for patients, clinicians and hospital leaders by demonstrating a statistically significant difference in hospital performance for patients admitted on weekends vs. weekdays."

"The authors noted that for index leukemia cases, a higher proportion of higher-acuity patients can be expected on weekends. They suggest that changes in staffing levels and staff skill mix in anticipation of this higher-acuity patient may prove beneficial," Hagan notes.

More information: *JAMA Pediatr*. Published online August 25, 2014. DOI: 10.1001/jamapediatrics.2014.1023
JAMA Pediatr. Published online August 25, 2014. DOI: 10.1001/jamapediatrics.2014.1531