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Purpose: Intravenous (IV) fluid therapy is widely used in hospitalized patients. It has been internationally studied in surgical patients, but little attention to date has been dedicated to medical patients within the Italian context. The aims of the present study were to describe the prevalence of fluid therapy and associated factors among Italian patients admitted to medical and surgical units, describe the methods used to manage fluid therapy, and analyze the monitoring of patients by clinical staff.

Methods: In this cross-sectional study of 7 hospitals in northern Italy, data on individual and monitoring variables were collected, and their associations with in-hospital fluid therapy were analyzed by using logistic regression analysis. Patients aged ≥ 18 years who were admitted to medical and surgical units were included. Patients who received at least 500 mL of continuous fluids were included in the fluid therapy group.

Findings: In total, 785 (median age, 72 years; women, 52%) patients were included in the study, and 293 (37.3%) received fluid therapy. Maintenance was the most frequent reason for prescribing IV fluid therapy (59%). The mean (SD) volume delivered was 1177 (624) mL/d, and the highest volume was infused for replacement therapy (1660 [931] mL/d). The mean volume infused was 19.55 (13) mL/kg/d. The most commonly used fluid solutions were 0.9% sodium chloride (65.7%) and balanced crystalloid without glucose (32.9%). The proportion of patients assessed for urine output (52.6% vs 36.8%; $P < 0.001$), serum electrolyte concentrations (74.4% vs 65.0%; $P = 0.005$), and renal function (70.0% vs 58.7%; $P = 0.002$) was significantly higher in patients who did receive fluid therapy versus those who did not. In contrast, the use of weight and fluid assessments was not significantly different between the 2 groups ($P = 0.216$ and 0.256 , respectively). Patients admitted for gastrointestinal disorders (odds ratio [OR], 3.5 [95% CI, 1.87-7.05]) and for fluid/electrolyte imbalances (OR, 3.35 [95% CI, 1.06-10.52]) were more likely to receive fluids. However, the likelihood of receiving fluids was lower for patients admitted to a surgical unit (OR, 0.36 [95% CI, 0.22-0.59]) and with cardiovascular diseases (OR, 0.37 [95% CI, 0.17-0.79]).

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