

Economic Analysis of the Reduction of Blood Transfusions during Surgical Procedures While Continuous Hemoglobin Monitoring Is Used.

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Sensors (Basel). 2018 Apr 27;18(5). pii: E1367. doi: 10.3390/s18051367.

BACKGROUND: Two million transfusions are performed in Spain every year. These come at a high economic price for the health system, increasing the morbidity and mortality rates. The way of obtaining the hemoglobin concentration value is via invasive and intermittent methods, the results of which take time to obtain. The drawbacks of this method mean that some transfusions are unnecessary. New continuous noninvasive hemoglobin measurement technology can save unnecessary transfusions.

METHODS: A prospective study was carried out with a historical control of two homogeneous groups. The control group used the traditional hemoglobin measurement methodology. The experimental group used the new continuous hemoglobin measurement technology. The difference was analyzed by comparing the transfused units of the groups. The economic savings was calculated by multiplying the cost of a transfusion by the difference in units, taking into account measurement costs.

RESULTS: The percentage of patients needing a transfusion decreased by 7.4%, and the number of transfused units per patient by 12.56%. Economic savings per patient were €20.59. At the national level, savings were estimated to be 13,500 transfusions (€1.736 million).

CONCLUSIONS: Constant monitoring of the hemoglobin level significantly reduces the need for blood transfusions. By using this new measurement technology, health care facilities can significantly reduce costs and improve care quality.