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# 228 - IDENTIFICATION OF RISK FACTORS FOR HOSPITAL READMISSION IN PAEDIATRIC PATIENTS WITH CANCER ENROLLED IN A HOME HOSPITALISATION PROGRAMME

*S. Pérez-Jaume, A. Felip-Badia, M.A. Colomar-Riutort, L. Andrés-Zallo, P. Mazorra*

*Universitat de Barcelona; Institut de Recerca Sant Joan de Déu; Hospital Sant Joan de Déu.*

## Resumen

Background/Objectives: Paediatric cancer is a group of rare malignancies that occur in childhood and adolescence. This potentially life-threatening disease often requires aggressive therapies. The nature of these interventions requires patients to be hospitalised multiple times. In this context, a monographic paediatric cancer centre in Barcelona initiated a home-based hospitalisation programme for paediatric patients diagnosed with cancer, which offers relevant benefits (enhanced quality of life and reduced economic costs). However, a concern with home-based hospitalisations is the occurrence of adverse events, such as the need for hospital readmission during the hospitalisation at home, which is considered an unfavourable outcome in home-based care. Data from this home hospitalisation programme are used to identify risk factors for hospital readmission during the home-based hospitalisation.

Methods: The dataset used in this project poses a statistical challenge since patients may be hospitalised at home more than once. Appropriate methods for repeated measures are then required for a proper analysis. Since the outcome of interest a binary variable, we used Generalized Linear Mixed Models with a logit link function. The variable selection algorithm GMMBoost is applied to select the best possible model.

Results: Data consist of information on 530 home-based hospitalisations from 202 paediatric patients previously diagnosed with cancer included in the home hospitalisation programme. Most patients were male (60.9%) and the median distance from hospital to the location of home-based hospitalisation was 8 km. The final model includes 5 variables. Among the reasons for the home-based hospitalisation, we found that hydration-intended hospitalisations reduced the odds of hospital readmission compared to the other reasons considered. Moreover, lower neutrophil counts increased the odds of hospital readmission. The occurrence of incidences with the intravenous route also increased the odds of hospital readmission. Solid tumours reduced the odds of hospital readmission compared to haematological malignancies. Increasing the time from the first home-based hospitalisation also reduced the odds of hospital readmission.

Conclusions/Recommendations: We identified reason of hospitalisation, neutrophil count, the occurrence of incidences with the intravenous route, the type of cancer and the time from the first home-based hospitalisation as factors associated to hospital readmission in the context of home-based care in paediatric oncology. This might influence physicians' decisions about the management of these patients at home.