

A BAR-CODE ASSISTED CHEMOTHERAPY SYSTEM IN CANCER PATIENTS

M.J. Huertas Fernández, M.J. Martínez Bautista, M.E. Rodríguez Mateos, M.V. Manzano Martín, F.J. Suárez Carrascosa, F. García Martín, G. Blanco Sánchez, M. Domínguez López, A. Salguero Olid, I. Romero Hernández.

H.U.Puerta del Mar, Pharmacy, Cádiz, Spain.

Background: Implementation of new technologies in drugs administration phase (AP), is one of the recommendations suggested by most of the health agencies in order to prevent medication errors (ME).

Purpose: to asses the effectiveness of a bar-code assisted chemotherapy system (BCCS) in cancer patients.

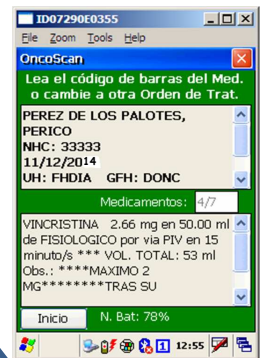
Material and methods: prospective before and after study performed in a hospital centre in two phases. Over a 12 month period, ME in the administration were registered by the review of the medication orders and medical history.

The bar-code assisted chemotherapy system (ONCOSCAN®) was designed and implemented.



A follow up period of another 12 months was assessed. The difference in rates of ME recorded before and after the CB system implementation was analyzed.

The main purpose of this technology is to ensure that chemotherapy medication is administered correctly by scanning the bar codes and the preparation label of the medication orders, at the correct dose, at the correct time, at a correct infusion rate, to the correct patient.



Sample size was determined to identify an expected error reduction of ME with result of harm to patient of 75% and type I error 0,05 and 80% power. Student t tests were used to compare error rates between periods.

Results:

	BEFORE IMPLEMENTATION OF BCCS	AFTER IMPLEMENTATION OF BCCS
Number of patients	250	250
Prescriptions lines	3.240	3.344
Medication errors at AP	0	28 (0,84% of intravenous mixtures) p<0,01

✓19 of them corresponded to the administration in a different order than established in the treatment protocol

✓9 patients did not have the correct chemotherapy treatment to be administered.

In every case the system sent out advice and 100% of ME detected were avoided.

Conclusions:

Bar-code assisted chemotherapy systems allow the identification of ME before they reach oncology patients, avoiding harm and increasing the safety of the care process.