

Celine M. Michel, MPharm, MSc^{1,3}, Anne Spinewine, MPharm, MSc, PhD^{1,2,3}, Ariane Mouzon, MPharm, MSc^{1,3}, Bruno Krug, MD⁶, Jean-Daniel Hecq, MPharm, MSc, PhD^{2,3}, Jacques Jamart, MD⁴ and Alain Dive, MD, PhD⁵

¹Clinical Pharmacy, Cliniques Universitaires Mont-Godinne, Yvoir, Belgium

²Clinical Pharmacy Centre, School of pharmacy, Catholic University of Louvain, Brussels, Belgium

³Hospital Pharmacy, Cliniques Universitaires de Mont-Godinne, Yvoir, Belgium

⁴Centre of biostatistics, Cliniques Universitaires de Mont-Godinne, Yvoir, Belgium

⁵Critical care unit, Cliniques Universitaires de Mont-Godinne, Yvoir, Belgium

⁶Quality Coordinator, Cliniques Universitaires de Mont-Godinne, Yvoir, Belgium

Contact : celine.m.michel@uclouvain.be

Objectives

Undernutrition is associated with increased length-of-stay, morbidity and mortality. Unfortunately, undernutrition remains underdiagnosed and undertreated. Clinical pharmacists can potentially contribute to improved care of this syndrome.

Objectives were to evaluate the impact of a clinical pharmacist working in collaboration with physicians, nurses and dieticians on the quality of care of undernutrition.

Results

The percentage of patients with a complete denutrition screening at admission (weight, height, appetite or weight loss) was significantly higher in the intervention group. The percentage of patients with enteral nutrition prescribed did not differ between the two groups, but there were more prescriptions for parenteral nutrition in the intervention group. (Figures 2-5) Finally, triglycerides were more frequently monitored during parenteral nutrition in the "intervention" group.

The qualitative survey showed that interventions of the clinical pharmacist were seen as useful or very useful by other healthcare professionals. Physicians found that their knowledge in nutrition was insufficient.

Pre-existing computer tools in the hospital appeared to be underused.

Method

Prospective 6-month study. Six care units were randomised into two groups, each including one medical, one surgical and one mixed unit. In the intervention group a clinical pharmacist worked in collaboration with other health care professionals to improve the detection and management of undernutrition, in accordance with hospital guidelines on undernutrition. Predefined quality indicators were collected in both groups during a baseline period of two months as well as during the intervention period of 6 month (Figure 1). The pharmacist was unaware of them.

A qualitative survey was performed after the intervention period to evaluate the awareness of health care professionals about undernutrition and the usefulness of intervention of clinical pharmacist.

Figure 2 : Relationship between the ratios of intervention and baseline periods for "control" and "intervention" groups

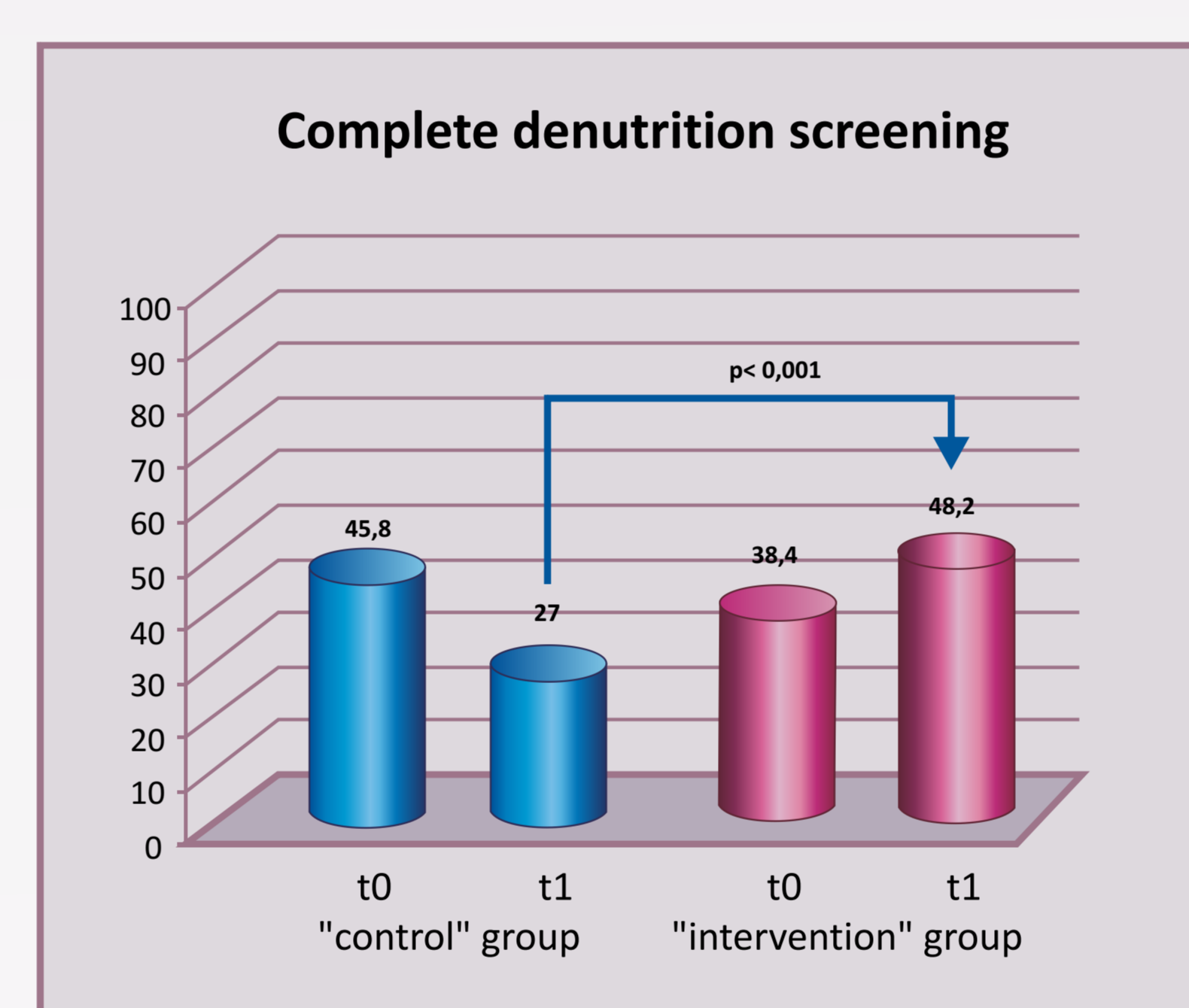
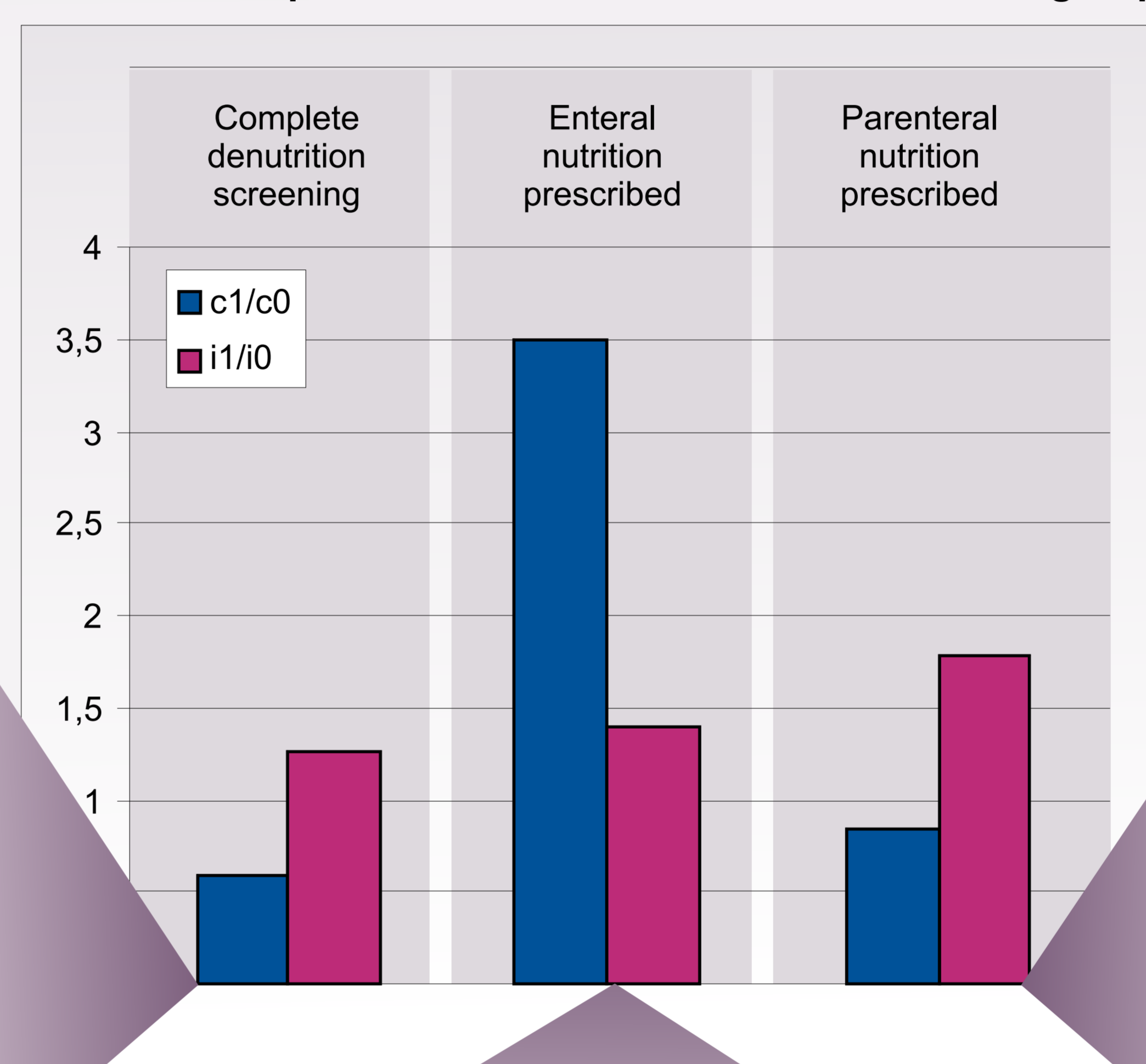


Figure 3

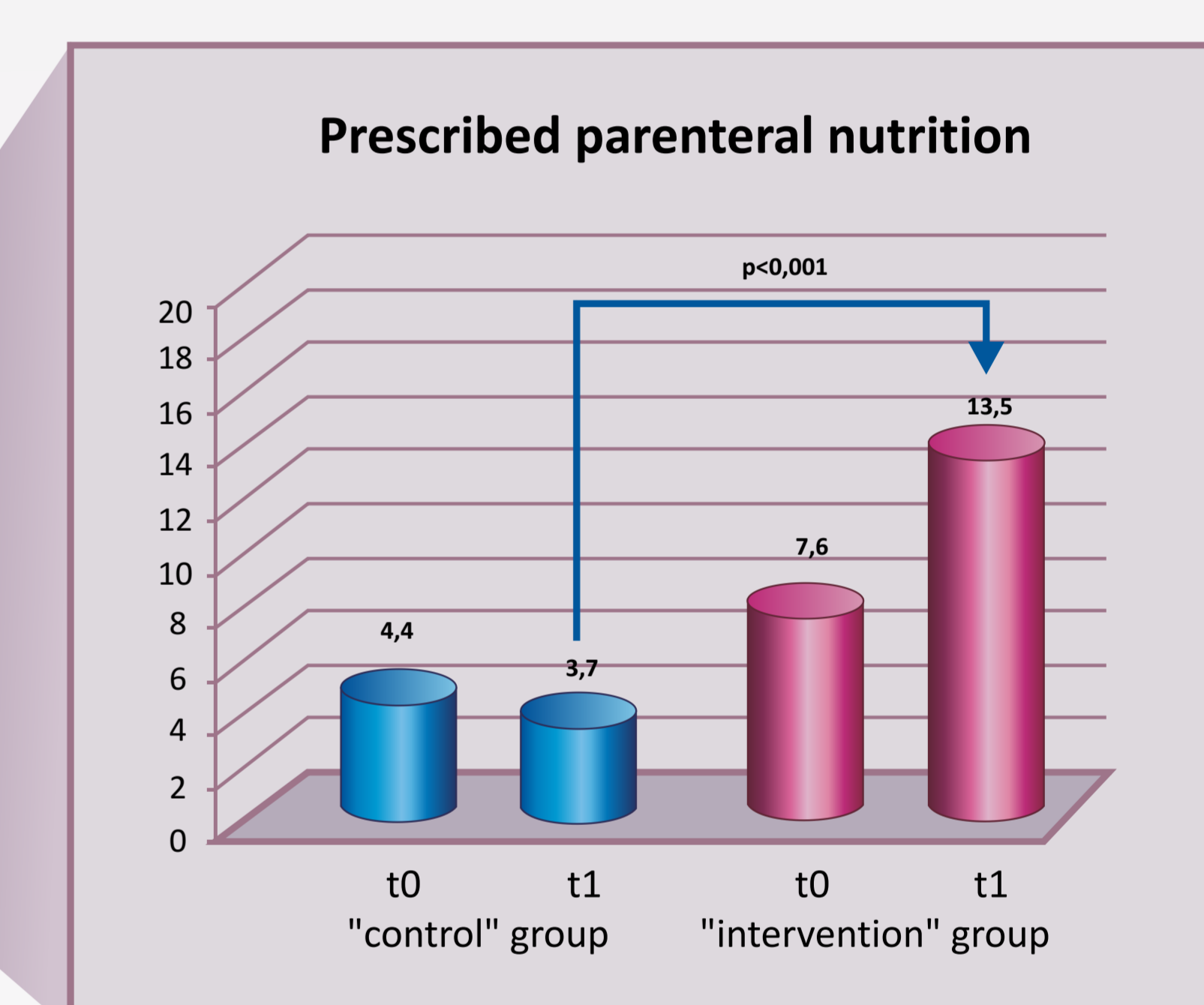


Figure 5

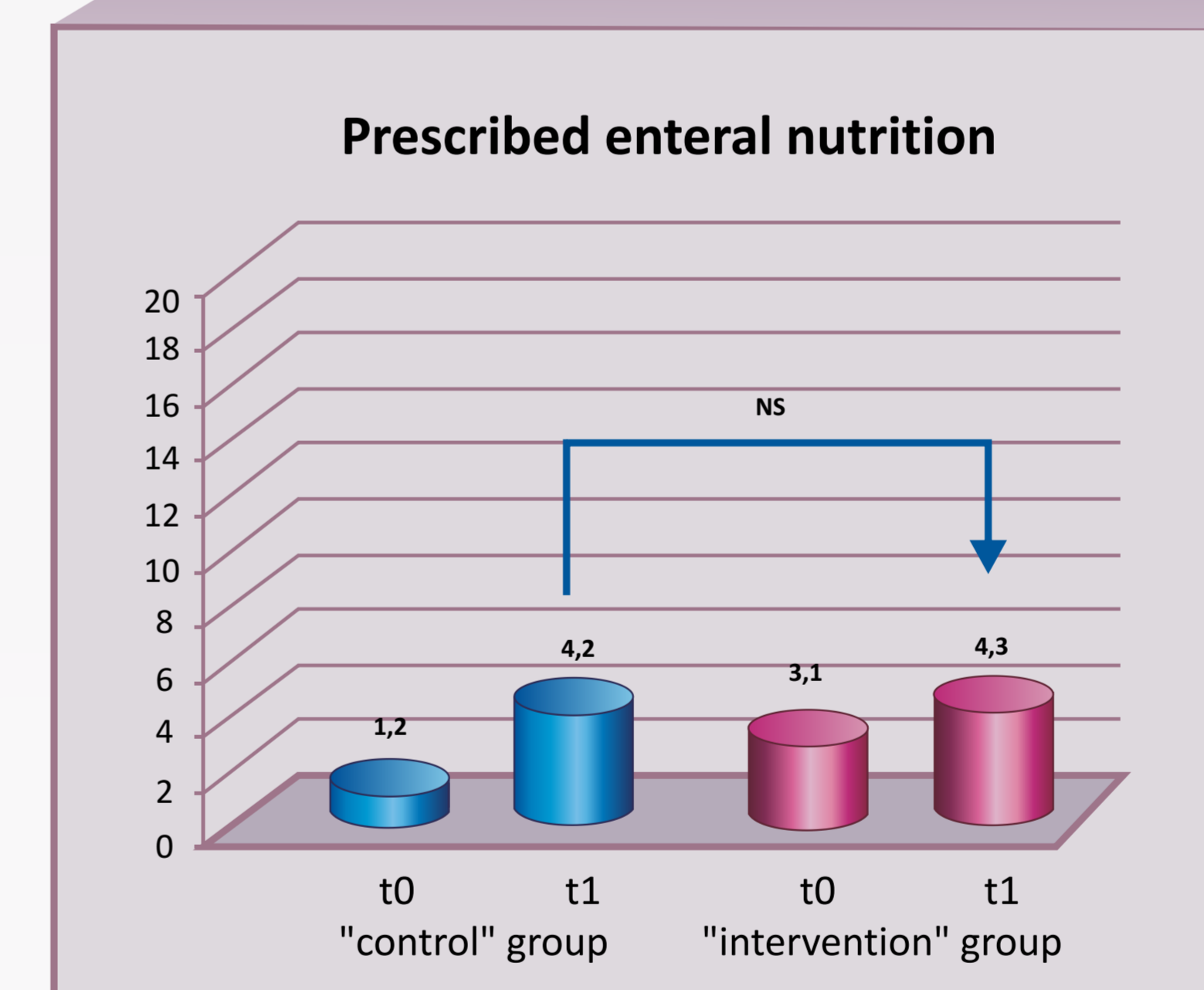
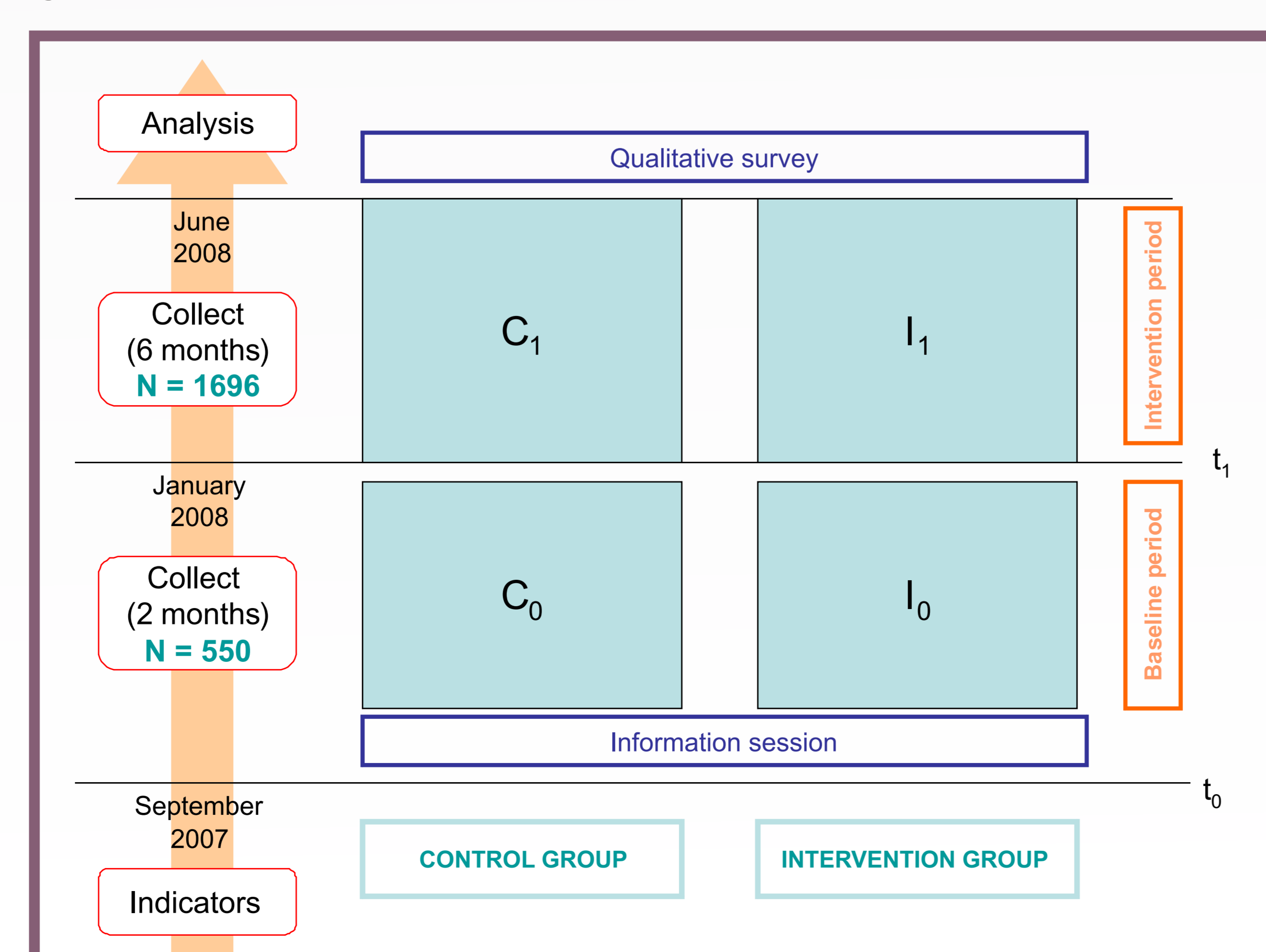


Figure 4

Figures 3-5 : Percentage of patients in "control" and "intervention" groups during the baseline period (t0) and the intervention period (t1)

Figure 1 : Flowchart of study design.



Discussion

Involvement of a clinical pharmacist contributed to better care of undernutrition, even though the input might have been limited due the lack of a multidisciplinary nutrition team (for example to increase the proportion of enteral nutrition prescribed). The pharmacist also identified barriers for improvement (especially due to lack of procedure, information, knowledge), and this will lead to the implementation of new procedures, training and enhanced communication between practitioners.

In the future specific contracts with some units and the involvement of health care professionals will increase their awareness and may contribute to improve the care of undernutrition