



COST EFFECTIVENESS ANALYSIS OF PATIENTS' SELF-ADMINISTRATION OF MEDICATION (SAM) DURING HOSPITALISATION IN A CARDIOLOGY UNIT



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1 Aim

To evaluate the cost-effectiveness of "Self-administration of medication" (SAM) during hospitalisation in a Danish Cardiology Unit

2 Conclusion and Relevance

SAM is cost-effective since:

- SAM seem to cost less, however, the results were not statistically significant
- There were fewer dispensing errors in SAM when compared with dispensing by nurse

3 Background and Importance

What we know:

Healthcare is moving towards systems with more patient involvement, including SAM during hospitalisation. SAM enhances patients' independence, knowledge and empowerment and may ease the current strain on healthcare resources.

What we don't know:

The risk of dispensing errors in SAM is unclear and a full health economic evaluation of SAM is lacking.

4 Materials and methods

A randomised controlled trial (RCT) was performed in a Cardiology Unit. Included patients were capable of SAM and ≥18 years.

Intervention group: patients were instructed about medication, and self-administered their medication during hospitalisation. New medication and medication not brought to hospital was delivered from the medicine room.

Control group: medication was dispensed and administered by nurses at the ward.

A **cost analysis** on micro-costing level (hospital perspective) was performed alongside the RCT and included costs for medication, materials and nursing time spend on dispensing, administration, SAM start-up activities and discharge preparation.

Effectiveness was explored as the proportion of ward-level dispensing errors registered through disguised observation of dispensing performed by the patient (intervention) in the patient room or the nurse (control) in the medicine room.



Dispensing errors were defined as deviations between the prescription and the dispensed medication (e.g. wrong dose)

$$\text{Error proportion} = \frac{\text{Dispensing errors}}{\text{OEs}} * 100 \%$$

Opportunities for error (OEs) were defined as any dose dispensed plus any dose prescribed but omitted

5 Results

250 patients recruited from August 2017 to September 2018; 11 patients withdrawn (discharged prior to observation).

66% men; mean age was 64.2 years (SD: 12.2). No statistical significant differences between groups.

	Intervention group n=119 patients	Control group n=120 patients	P-value
Cost			
Total cost per patient, 2018 € (95% CI)	49.9 € (46.7 - 53.1 €)	52.6 € (47.1 - 58.1 €)	0.09 ¹
Effectiveness			
Error proportion (95% CI) (total errors, OEs)	9.7 (7.9 - 11.6) (100 errors, 1033 OEs)	12.8 (10.9 - 15.0) (132 errors, 1028 OEs)	0.02²

¹Wilcoxon Ranksum test; ²Chi2 test



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