

An Educational Intervention to Decrease Drug Costs Related to Terminal Secretions in a Hospice Organization.

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Reference: Brock C, Cooper S, Herndon C. J Pain Palliat Care Pharmacotherapy. 2017 Vol 31 No.1 66-70

Abstract: Terminal secretions is a common symptom seen in hospice patients. Anti-muscarinic drugs are commonly used to treat this symptom despite a lack of supporting data. Wide variability in cost exists among these treatments. Hospice program data were assessed to identify high-use and high-cost medications. An educational intervention (EI) was developed to target one such medication, transdermal scopolamine. The EI focused on efficacy, safety, and actual cost (by unit and total expenditure) for each possible treatment of terminal secretions. Following the EI, drug utilization data was re-evaluated. Prior to the deployment of the EI, total monthly hospice drug costs averaged \$91,405 (SD 1,444) with an average drug cost per patient per day of \$11.42 (SD 0.54). Monthly costs of drugs frequently employed to treat terminal secretions averaged \$7,187.67 (SD 2,253) pre-intervention. Following the EI, monthly drug costs decreased 22.5%, average daily patient drug costs decreased 11.1%, and total anti-secretion costs decreased 28.5% after adjusting for difference in census. Education regarding the use and cost of medications to treat symptoms at end-of-life in hospice patients can be an intervention used to lead to significant cost savings to hospice organizations while maintaining appropriate symptom management for patients. Future interventions to target additional high-cost medications are warranted.

Strengths of study: The study was conducted by pharmacists using drug utilization data and was unfunded. The sublingual use of atropine drops appears to be the most cost-effective therapy.

Weaknesses of study: Differences in acquisition costs of anti-secretion therapies are attributed to the intervention and not to other external factors such as price changes. There was no determination of efficacy between the dosage forms or which were most suitable for use at end-of-life. Patches may be an attractive option when the patients can no longer swallow and there is no SC or IV access.

Relevance to palliative care: Anti-secretory medications are frequently used at the end of life although there is little evidence to support their use. Educational interventions could include instruction regarding the futility of these interventions as well as exploring the most cost-effective options. Atropine drops used sublingually appears to be economically the agent of choice and we need to be mindful that not all the options investigated in this study are available in Canada.

Stats for the TPCU

Costs for anti-secretory medications	February 2017	January 2017	December 2016
Glycopyrrolate 0.2 mg/mL	\$384	\$624	\$1104
Scopolamine 0.4 mg/mL	\$220	\$161	\$186
Total	\$604	\$585	\$1120
Average cost per day	\$21.57	\$18.87	\$36.13
Average cost per pt/month	\$26.26	\$25.43	\$48.69
Average cost per pt/day	\$0.94	\$0.82	\$1.57
Percentage of total month drug cost	3.6%	2.9%	6.7%

Total drug costs	February 2017	January 2017	December 2016
Total drug cost	\$16 867.15	\$18 177.58	\$16 792.70
Drug cost/day	\$603.40	\$586.36	\$541.70
Average drug cost per pt/day	\$26.20	\$25.50	\$23.55

Top 5

February 2017		January 2017		December 2016	
Nozinan 25mg/mL	\$1440 (408)	Metoclopramide 10mg/2mL	\$2051 (423)	Abiaterone	\$1716 (58) (14.5 doses)
Micafugin 100mg	\$1300 (13)	Nozinan 25mg/mL	\$1976 (560)	Metoclopramide 10mg/2mL	\$1231 (254)
Metoclopramide 10mg/2mL	\$1135 (234)	Hydromorphone 8 mg tab	\$782/1504	Glycopyrrolate 0.2mg/mL (20mL)	\$1104 (23)
Pip-tazo 4.5g	\$836 (100)	Hydromorphone 2mg/mL	\$761 (428)	Nozinan 25mg/mL	\$794 (225)
Hydromorphone 8 mg tab	\$789 (1509)	Enoxaparin 300mg/3mL	\$756 (14)	Dalteparin 25 000/3.8mL	\$657 (7)

