State of the Evidence for Emergency Medical Services (EMS) Provision of Palliative Care: An Analysis of Appraised Research from the Canadian Prehospital Evidence-based Practice (PEP) Project

Carter A., DeRosa A., Goldstein J., Greene J., Cook J., Jensen J., Swain J., Fidgen D., Muise A., Cain E.

Introduction

Patients who require end of life (EoL)/palliative care occasionally need assistance from paramedics. An expansion of paramedic palliative care support is occurring in some emergency medical services (EMS) systems. This review evaluated the evidence for paramedic-delivered EoL/palliative care interventions.

Methods

The Canadian Prehospital Evidence-based Practice (PEP) Project methodology was used. A PubMed search was conducted, using Medical Subject headings and title/abstract key words. Titles and abstracts were reviewed for relevance. Studies were not required to be EMS based but must have focused on interventions available to EMS personnel. Included full text studies were scored by trained primary appraisers on a three-point Level of Evidence (LOE) scale (on study design and quality: high = 1, moderate = 2 and low = 3) and three-point Direction of Evidence (DOE) scale (supportive, neutral, or opposing). Each appraisal was reviewed by a senior appraiser. Studies were categorized by clinical condition (n=5) and by intervention (n=25), and plotted on 3x3 (DOE x LOE) tables. The study primary outcome and setting were determined.

Results

The search returned 3255 articles; 86 were selected for abstract review; with 30 full text articles ultimately included. Intervention recommendations were: LOE 1-supportive (n=3, 12%), 2-supportive (n=2, 8%), 3-supportive (n=2, 8%), 1-neutral (n=2, 8%), 2-neutral (n=2, 8%), 3-neutral (n=4, 16%). No primary studies were identified for 10 (40%) interventions. Conditions with 1-supportive studies were: ‘breathlessness’ and ‘analgesia’. ‘Secretions’ condition had no relevant evidence. Interventions with 1-supportive evidence were: Haldol for agitation (n=1), fentanyl and morphine for analgesia (n=3 and n=1), narcotics for breathlessness (n=1). No intervention had opposing evidence. Primary outcomes were more commonly related to symptom relief (n=26, 87%), safety (n=3, 10%), or tolerability (n=1, 3%). Only one included study was conducted in the EMS setting.

Conclusions

Evidence for interventions used by paramedics in the treatment of patients requiring EoL/palliative care was identified, as were evidence gaps. Little research was conducted in the EMS setting, and most interventions had few studies. These PEP findings highlight topics

requiring high quality EMS research specific to EoL/palliative care to inform this growing aspect of paramedic practice.