Ketamine for sedation in acutely painful procedures in Kenya: findings after implementation of the Every Second Matters-Ketamine package

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Abstract

Background Adequate pain management for painful procedures improves the quality and safety of patient care and has become accepted as a basic human right. In low-resource settings, pain relief for painful procedures is scarce because of cultural, attitudinal, legal, and system-related reasons, as well as a scarcity of anaesthetists. A practice of "hold still", where patients are forcibly held down during painful procedures, remains common in Kenya and in other low-resource settings. In December, 2013, we launched the Every Second Matters-Ketamine (ESM-Ketamine) package in Kenya, for use during emergency surgery when no anaesthetist is available. Here, we aim to describe how non-anaesthetists who were trained in an ESM-Ketamine programme broadened use of their skills to provide procedural sedation for patients in need of painful procedures when an anaesthetist would not have been previously called.

Methods Medical officers, nurses, and clinical officers in Kenya undertook a 5-day ESM-Ketamine competency-based training programme for non-anaesthetists. We provided every facility in the ESM-Ketamine initiative with wall charts, checklists, and kits. Trained providers recorded patients' demographic data, pre-operative diagnoses, the procedure or procedures undertaken, medications administered, and ketamine-related adverse events. Partners Healthcare and Maseno University gave ethical approval for the programme.

Findings Between Dec 1, 2013, and July 30, 2018, 62 ESM-Ketamine providers across 11 facilities administered ketamine to 512 patients undergoing painful procedures in non-training settings where an anaesthetist would previously not have been called. 273 patients (53·3%) were male and median age was 23 years (IQR 11–36 years). The five most common indications were: incision and drainage, debridement, or both (159 [31·1%]); fracture reduction (56 [10·9%]); circumcision (41 [8·0%]); wound repair (29 [5·7%]); and foreign body removal (26 [5·1%]). Median ketamine dose was 2·0 mg/kg (IQR 2·0–3·0). Hallucinations or agitation treated with diazepam were reported in 45 patients [8·8%]; brief oxygen desaturation occurred in 22 (4·3%) patients. Prolonged (>30s) desaturations below 92% occurred in two patients (0·4%). The lowest desaturation was 85%. All patients recovered uneventfully. There were no deaths or injuries associated with ketamine use in the programme.

Interpretation The ESM-Ketamine package appears safe for use by trained providers in support of procedural sedation when previously an anaesthetist would not have been called. Scale-up of the ESM-Ketamine package may support the human rights imperative that every person deserves pain relief when undergoing a painful procedure.

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Declaration of interests
We declare no competing interests.

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