Title

208 Prospective Randomized Pilot Trial Measuring the Feasibility and Knowledge Retention of Opioid Education in Emergency Department Patients Using a Multimedia Platform

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Authors

Chakravarthy, B
Somasundaram, S
Mogi, J
et al.

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Conclusion: There was a significant increase in hydromorphone administration in U.S. EDs from 2007-11, with severity of reported pain being the strongest predictor for hydromorphone use. Hydromorphone administration was associated with conditions for which opioid use is controversial, such as back pain and headache as well as for patients with multiple ED visits.

With increased concern about opioid abuse and overdose, EDs may need to closely examine indications and protocols for using high-potency opioids.

Variable	Odds Ratio	95% CI
Age 65+ years	0.57	0.48-0.68
White (versus nonwhite)	1.32	1.15-1.52
Female (versus male)	0.95	0.88-1.04
Admitted to floor (versus discharged)	1.92	1.66-2.23
Admitted to ICU (versus discharged)	0.69	0.49-0.96
Procedure	1.89	1.66-2.16
Blood labs	1.94	1.70-2.21
Imaging	0.91	0.83-1.00
$\geq$ 2 Visits in past year	1.38	1.26-1.52
Severe pain (pain score $\geq$ 8)	1.94	1.75-2.15
Abdominal pain	1.21	1.06-1.38
Back pain	1.36	1.22-1.52
Chest pain	0.55	0.45-0.67
Headache	1.33	1.17-1.52
Musculoskeletal pain	0.72	0.63-0.82
Tooth/mouth pain	0.30	0.23-0.39

207 Randomized Trial of Acupuncture Versus Standard Therapy to Treat Low Back Pain in the Emergency Department

Fox LM, Danesh H, Murakami M, Gestal C, Harper-Brooks A, Jalloh YK, Linton E, Ortiz V, Tapia B, Manini AF/New York University School of Medicine, New York, NY; Icahn School of Medicine at Mount Sinai, New York, NY; University of California San Diego, San Diego, CA

Study Objectives: Battlefield acupuncture (BFA) is a simple acupuncture protocol designed by the military to provide immediate relief of acute pain by applying needles to 5 pre-specified points on the ear. Low back pain (LBP) is one of the most common chief complaints in the ED. However, pain management with opioids is problematic. Therefore, new pain management strategies are needed. We performed a pilot feasibility study of BFA as a treatment for ED patients with LBP.

Methods: This pilot feasibility study was a randomized trial of BFA to treat LBP in the ED that enrolled 30 ED patients at an urban teaching hospital. All patients provided written informed consent and the study was approved by the hospital IRB. Patients were randomized to standard care plus BFA or standard care alone, and outcomes were assessed pre-intervention, and again within one hour of randomization or immediately after BFA by unblinded research assistants. BFA was performed by either a certified acupuncturist or an emergency physician trained in the BFA protocol under the supervision of the certified acupuncturist. Primary outcomes were relief of LBP (10-point numeric pain rating scale), and the timed get-up-and-go test (GUGT), which measures in seconds how long it takes a patient to stand, walk 3 meters, and return to their chair to sit again. Secondary outcomes included 10-point numeric pain rating scale of leg pain (Leg, 0-10), and lumbar range of motion as assessed by goniometer with flexion (Flex, degrees), and extension (Ex, degrees). Pain medications prior to visit, during the visit and at discharge were also recorded. Patients were observed for adverse events. Statistical analysis was performed with t-test and chi squared to compare differences between groups demographics to evaluate randomization, Analysis of Covariance (ANCOVA) to assess differences in primary/secondary outcomes.

Results: We randomized 15 patients per group, of whom 4 standard therapy patients and 1 BFA patient dropped out prior to post-intervention data collection. There were no significant differences between groups in terms of demographics and ED length of stay. 20% of patients reported taking opioid analgesics prior to arrival to the ED (2/15 in BFA group and 4/15 in standard care group). 7/15 patients in the BFA group and 7/15 patients in the standard care group received opioid medications during their ED visit. 6/15 patients in the BFA group got opioid medications at discharge, and 3/15 patients in the standard care group got opioids at discharge. LBP was significantly improved in the BFA group compared with the standard care group (5.2 versus 6.9, p=0.04). GUGT was similar between groups (21.3 sec versus 19.0 sec, p=0.327). Flex (49.8 versus 48.2), Ex (22.8 versus 18.1), and Leg pain (1.4 versus 2.2) were all clinically improved in the BFA group, but these did not achieve statistical significance. Two BFA patients complained of pain at needle insertion site, but there were no significant adverse events from acupuncture.

Conclusion: This pilot study demonstrates that BFA is feasible as a complement or as an alternative to standard therapy for LBP in the ED. Furthermore, our data suggest that BFA may be efficacious to improve LBP and lumbar range of motion, and thus further efficacy studies are warranted.

208 Prospective Randomized Pilot Trial Measuring the Feasibility and Knowledge Retention of Opioid Education in Emergency Department Patients Using a Multimedia Platform

Chakravarthy B, Somasundaram S, Mogi J, Burns R, Hoonpongsimanont W, Lotfipour S/University of California, Irvine, Irvine, CA

Study Objectives: We seek to determine if a novel multimedia presentation educating patients on the dangers and safe usage of opioid analgesics is feasible in the emergency department. Furthermore, we compared knowledge retention between patients given standard-of-care discharge instructions versus a short educational video discharge instruction.

Methods: The study was conducted in a large, urban, academic emergency department. Patients were identified by emergency physicians with the assistance of undergraduate research associates. Fifty-two English-speaking patients aged 18 years or older anticipated to receive a narcotics prescription in the ED were approached. Patients likely to be admitted, pregnant, or with active cancer were excluded. Patients were randomized into two cohorts. Cohort 1 (the standard-of-care group) received standard verbal education and an informational pharmaceutical sheet from a nurse. Cohort 2 (the intensive education group) received a 6-minute video presentation on the risks and safe usage of opioid medication in addition to the standard of care. The content of the video was sourced from the Substance Abuse and Mental Health Services Administration (samsha.gov) and administered within the ED prior to discharge. Both groups received a 26-question test regarding the dangers and safe usage of opioids immediately after education to gauge knowledge retention. An unpaired t-test was utilized to compare knowledge retention between the two cohorts.

Results: From the 154 patients approached for the study, 52 patients enrolled; 27 in the Standard group and 25 in the Education group. The average age of the population was 37 years, and were made up of 44% white, 40% hispanic, 6% asian, 6% black, and 4% other. Feasibility was determined by the number of patients that completed both the video and survey in the education group. Of the 26 subjects initially randomized into the intensive education group, 25 completed both the video and survey (96.1% feasibility). Correct survey answers were summed and averaged by group. The standard-of-care group averaged 65% retention (16.8/26 correct), while the intensive education group averaged 82% retention (21.2/26 correct). An unpaired t-test analysis revealed that the multimedia education group significantly increased patient knowledge about opioid medication's risks, proper usage and disposal (p-value=0.001).

Conclusion: As evidenced by the high percentage of participants completing the video and survey, we conclude that it is feasible to implement a multimedia platform to educate patients receiving opioid analgesics in the ED. We also conclude that medical knowledge retention is improved in the intensive education group compared to the current standard of care treatment. This may indicate that busy EDs can improve their discharge instructions to patients with regards to prescribed opioid analgesics. In this study, we looked at immediate knowledge retention alone. Future research should focus on 4-6 week knowledge retention as well as behavioral changes with regards to this intervention. By identifying optimal points to reinforce education and targeting populations at-risk for narcotic abuse, it is hopeful that patient education can decrease the non-medical usage of opioid analgesics and ameliorate the opioid epidemic in the United States.

209 Assessing Risk of Opioid Abuse Among the Emergency Medicine Population

Young HW II, Ryan MF, Tyndall JA, Cottler LB/University of Florida, Gainesville, FL

Study Objectives: Prescription opioid abuse is a rapidly growing epidemic in the United States. The American College of Emergency Physicians recommends that prior to prescribing opioids to an individual the provider assess an individual's risk for opioid abuse. Few emergency medicine studies have assessed the use of validated opioid risk assessment tools to assess emergency department patients' risk of misusing opioids. In this study, we assess the feasibility of performing a self-administered validated opioid risk screening tool,