Introduction:
Intranasal analgesia is increasingly used in order to relieve pain in the emergency department. This non-invasive approach avoids discomfort, stress and risks related to the parenteral route of administration. The objective is to compare intranasal (IN) fentanyl versus any parenteral opioid (intravenous, subcutaneous, intramuscular) for the effectiveness of acute pain relief in an adult population.

Methods:
The systematic review was registered in Prospero (CRD42016052976). The research of articles was conducted through Embase, Central, and Medline databases. Randomized clinical trials comparing the effectiveness of IN fentanyl to any parenteral opioid for acute pain relief (≤ 7 days) in an adult population (≥ 18 years old) were considered for inclusion. Studies on breakthrough cancer pain were excluded. Two different reviewers extracted data and analyzed the quality of the selected articles. The main outcome was the difference between pain levels before and after analgesia. The effect size was approximated using the inverse of variance of standardized mean differences, based on a random-effect model. Heterogeneity was quantified using a test of I². Results are presented with 95% confidence interval.

Results:
Eight randomized clinical trials with 11 cohorts and a total of 613 patients were selected (320 IN fentanyl vs 293 control group). Selected articles contained a low risk of bias. There is no significant difference between the average levels of pain before and after analgesia comparing the two groups (SMD 0.12 [IC 95% -0.04 à 0.28], p=0.14; I² = 0%) (Figure 1).

Conclusion:
IN fentanyl is as effective as other parenteral opioid to relieve pain during the first hour of treatment.