Engaging patients in health care decisions in the emergency department through shared decision-making: a systematic review

CRD summary
The authors concluded that limited evidence showed no reason to suggest that shared decision making cannot be successful in the emergency department. This was a generally well-conducted review and the authors’ conclusion seems reliable.

Authors’ objectives
To evaluate the effectiveness of interventions to engage patients in shared decision making in the emergency department.

Searching
MEDLINE, EMBASE, PsycINFO, CINAHL and Scopus were searched from 1990 to 2010 for articles written in English. Search terms and the MEDLINE search strategy were reported. Web of Knowledge and reference lists of included studies were searched for further studies. Authors were contacted to identify ongoing or recently completed studies.

Study selection
Eligible studies were of decision support interventions to engage all patients with acute disease (and their surrogates) in shared decision making in the emergency department. Interventions could include decision aids or support based on the results of clinical decision rules, decision analytic models or other modelling techniques with the specific task of communicating probabilistic information about the risks and benefits of treatment choices. Studies had to report: at least one patient-centred outcome (such as patient knowledge, experience, perspectives on involvement in treatment or management decisions); clinician or patient satisfaction; preference for treatment or involvement in decision making; and clinical outcomes (such as hospital admission/readmission rates) and numbers of surgical/medical interventions. Studies of education-based interventions (without specific patient engagement) were excluded.

All included studies were conducted in the United States. The included randomised controlled trials (RCTs) evaluated adults with chest pain. Cross-sectional studies focused on children who were febrile at risk for occult bacteraemia, had small lacerations or presented with vomiting and diarrhoea. All included interventions were paper- or computer-based aids with or without subsequent discussion (where appropriate) between physician and parents. Internal validity of computerised interventions in the RCTs was considered higher than paper-based interventions. Control groups received standard care.

Two reviewers independently selected studies for inclusion. Disagreements were resolved by consensus or with involvement of a third reviewer. All reviewers were involved in the final selection process.

Assessment of study quality
RCT quality was assessed using Cochrane criteria for sequence generation, allocation concealment, blinding, completeness of outcome data, selective outcome reporting and other sources of potential bias. Cross-sectional studies were assessed using the Newcastle-Ottawa Scale (five items) of definition of condition, representativeness of the sample, exposure definition, outcome ascertainment and response rate. Abstracts were assessed according to their study protocol.

Two reviewers independently carried out the quality assessment. Disagreements were resolved by consensus.

Data extraction
Data were extracted to enable presentation of percentage rates, mean or absolute differences and 95% confidence intervals (CI).
Two reviewers independently extracted data. Authors were contacted for information, where necessary.

**Methods of synthesis**
A narrative synthesis was conducted. Study tables were presented to demonstrate the nature and extent of heterogeneity.

**Results of the review**
Five studies were included in the review: two RCTs (573 participants) and three cross-sectional studies (436 participants). The RCTs were considered to be at low risk of bias with all criteria addressed adequately. The cross-sectional studies were classed as moderate (two studies assessed as inadequate on sample representativeness and response rate) to low risk of bias (one study).

Favourable differences in health care utilisation between intervention and control groups were reported in terms of fewer negative thoracic imaging tests that imparted more than 5mSv radiation (9% versus 20%, 95% CI for the difference 3.8% to 18%; one RCT), reduced cardiac stress testing (75% versus 91%, absolute difference 16%, 95% CI 15% to 18%; one RCT) and fewer ED revisits within seven days (4% versus 11%, 95% CI for the difference, 2.5% to 13.2%; one RCT). There were no differences between groups on median length of stay and adverse cardiac events after hospital discharge (two RCTs). Compared to standard care, knowledge was increased in relation to short-term risk of acute coronary syndrome and radiation exposure (mean difference between groups 0.67, 95% CI 0.34 to 1.0; one RCT). Satisfaction with the clinician's explanation improved between intervention and control (49% versus 38%, 95% CI 0.9% to 21%; one RCT).

Cross-sectional studies demonstrated the relevance of parental preference in relation to choice of hydration method for their child (one study) and in highlighting the importance of being involved in decision making (two studies).

**Authors' conclusions**
Limited evidence showed no reason to suggest that shared decision making cannot be successful in the emergency department.

**CRD commentary**
The review question was clear and inclusion criteria were potentially replicable but broad for study design. Several relevant data sources were searched. Unpublished material was sought. Language bias could not be ruled out. The review process was carried out with sufficient attempts to minimise error and bias. The included studies were assessed for quality and the results of this were reported clearly. Study details were provided. Ongoing research was highlighted. Clinical heterogeneity meant that the chosen method of synthesis was appropriate.

Limited evidence was presented and further studies may have been missed due to language restrictions but this was generally a well-conducted review. The authors' conclusion seems reliable.

**Implications of the review for practice and research**
**Practice**: The authors stated that shared decision making was suited to situations where there were two or more medically reasonable options with no professional consensus. Computerised interactive methods with outcome probabilities tailored to individual patients were potentially most effective for communication, patient engagement and documentation of consent.

**Research**: The authors stated that higher quality evidence should compare different shared decision-making strategies developed with clinicians and patients and include stratification by the presenting condition. Future research should explore a broader range of preference-sensitive situations and identify contextual conditions under which strategies could take place in the emergency department.

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