

# Effectiveness of interventions to engage patients and families in patient safety activities in inpatient and outpatient settings: a systematic review



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## BACKGROUND

Patients and families' participation is one of the key strategy to improve patient safety. However, patients and families' roles in patient safety were not paid attention. There was limited research focusing on patient participation in patient safety activities.

## OBJECTIVES

The aim of this study is to identify the types of interventions that patients and families were involved in to improve patient safety and their effectiveness of intervention through a systematic review method.

## METHODS

- Inclusion criteria**
  - All completed, quantitative studies that had implemented patient safety intervention for patient and families
  - Interventions conducted for improving patient safety should be directed to patients and family or by patient and family
  - Patient safety outcomes such as infection rate, fall rate, adverse events, perceptions about patient safety, knowledge about patient safety, and behavior on patient safety were measured.
- Search strategy**
  - Articles were searched using electronic database: Ovid Medline, Ovid EMBASE, CINHAL, and KMBASE.(published from 2000 to June 2018)
- Search terms**
  - Key terms were 'patient safety', 'patient participation', 'family participation', 'program evaluation'.
  - To increase sensitivity, Medical Subject Heading (MeSH) was used.
- Selection of studies and data extraction**
  - Two independent reviewers selected the studies according to the pre-specified eligibility criteria. Then, two reviewers then extracted data independently using the predefined data extraction form.
- Risk of bias assessment**
  - Two reviewers are independently evaluating the methodological quality of the included RCTs using the Cochrane Risk of Bias (RoB) tool and of the included quasi-experimental studies using the Risk of Bias Assessment tool for Non-randomized Studies (ROBANS) tool.

## RESULTS

- 2019 articles were obtained from search. After reviewing articles with eligibility, 13 studies were used for analysis (Figure 1)
- Majority of studies were quasi- experimental (n=10) and the remained were randomized control trial (n=3)
- Four studies were conducted in USA, two in Korean, two in UK, one in Netherland, one in Canada, one in Switzerland, one in Taiwan, and one in Australia
- As subjects, majority of studies include patients only (n=11), but two studies include medical staffs or families along with patients..
- There were 4 studies on medication safety, 4 studies in patient safety in general, 3 studies in communication with medical staff and 2 studies in surgical safety.

Table 1. Classification of Interventions

Intervention	NHS framework		
	Information	Involvement	Partnership / shared leadership
Watched PINK (Participate, Informed, Notice, Know) Video (4 minute animation video) to encourage patient participation in safety related behaviors at participant's bedside (Davis <i>et al.</i> , 2012)	✓		
Study 1 watched PINK Video at patient's bedside Study 2 Given NPSA's leaflet (encouraging patient participation in safety related-behavior) and explanation (Davis <i>et al.</i> , 2013)	✓		
Used electronic medication administration- patient communication tool (eMAR-PCT) module on the pharmacist's website with patients' login to check their prescription change and to communicate with pharmacist in case of error (de Jong <i>et al.</i> , 2016)		✓	✓
Given chest pain choice decision aids for care plan to help communication with clinician to make decision for care plan (hospitalized at ER for test or follow up within 2-3days) (Hess <i>et al.</i> , 2012)	✓		✓
Given Med-Wise class which enable patients to communicate with pharmacists and to use appropriate drugs (Martin <i>et al.</i> , 2016)	✓		
Used ParentLink on a mobile kiosk for parents to input children's data on their symptoms, allergies, current medications (Porter <i>et al.</i> , 2008)			✓
Given patient decision aids to choose vascular access option for coronary angiography(given 3 page booklet 30 to 60 minutes prior to the procedure) (Schwalm <i>et al.</i> , 2012)	✓		✓
Given patient safety advisory to patients at the first encounter at admission to study and encouraged to follow the instruction (Schwappach <i>et al.</i> , 2013)	✓		✓
Watched animation video about wrong-site surgery (See <i>et al.</i> , 2011)	✓		
Given updated medication list with explained glossary (Weingart <i>et al.</i> , 2004)	✓		
Given personalized medication education to enable patient to self-medicate in hospital setting (Grantham <i>et al.</i> , 2006)	✓		✓
Given a class that provides education on patient right, patient roles and safe medical environment (An <i>et al.</i> , 2017)	✓		
Used Smartphone application "safe patients" to deliver information about patient safety about patient safety for surgical patients (Cho <i>et al.</i> , 2017)	✓		

## CONCLUSIONS

- This study is an ongoing study and is a partial result report while the analysis is being made.
- While the importance of patient and family involvement has been growing, the number of intervention studies on it is still insufficient.
- Studies involving patients and families for patient safety is needed in a variety of ways in more diverse areas.

Table 2. Safety-related Outcomes

Reference	Safety related outcome
Davis <i>et al.</i> , 2012	Importance and willingness of participation in in patient safety activities
Davis <i>et al.</i> , 2013	Perceived comfort in participation in safety related behaviors
de Jong <i>et al.</i> , 2016	Self-efficacy in therapy adherence, collaborative relationship with pharmacist, and therapy adherence
Hess <i>et al.</i> , 2012	Patient knowledge, degree of decisional conflict patients experienced, and patient engagement in the decision-making process
Martin <i>et al.</i> , 2016	Self-efficacy on communication about medication, and worries about their medications
Porter <i>et al.</i> , 2008	Number of medication errors in orders or prescriptions for drugs
Schwalm <i>et al.</i> , 2012	Decisional conflict, patient knowledge, risk perceptions of the patient's healthcare options, informed value congruence with the patient's chosen option, impact of patients choosing their vascular access, a major adverse cardiac event
Schwappach <i>et al.</i> , 2013	Perceived level of information, risk perceptions regarding hospital infections, attitudes towards patient involvement in safety, perceived behavioral control, perceived subjective norms, safety-related behaviors, experience of safety-related incidents and unsafe situations
See <i>et al.</i> , 2011	Anticipated practice of eliminating wrong-site surgery among family member and among patients
Weingart <i>et al.</i> , 2004	Medication errors and injuries, adequacy of drug information, and quality of care during the hospitalization, adverse drug events and close-call drug errors
Grantham <i>et al.</i> , 2006	Medication error
An <i>et al.</i> , 2017	Perception and attitude about patient safety questions
Cho <i>et al.</i> , 2017	Patients' knowledge of patient safety issues

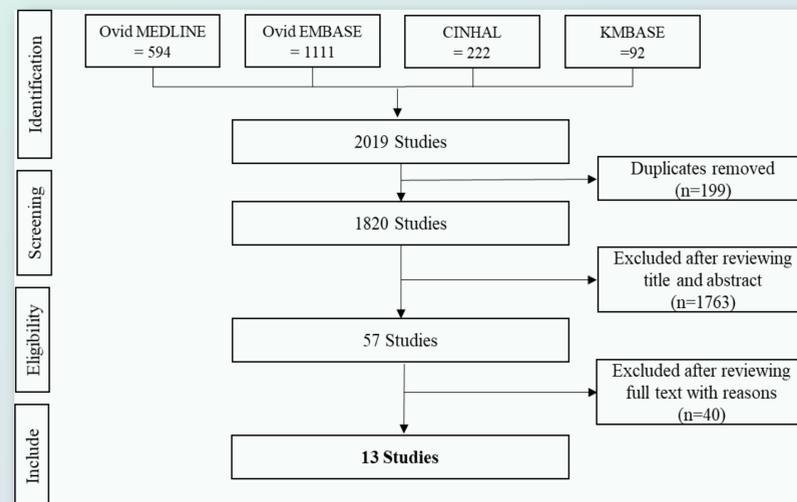


Figure 1. Flow chart of identification of relevant studies