



The Contents and effectiveness of Patient- and Family-Centered Care in Adult Intensive Care Units: A Systematic Review

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1. Background

• Patient- and Family- Centered Care (PFCC)

: An approach to the planning, delivery, and evaluation of health care that is grounded in mutually beneficial partnerships among health care providers, patients, and families.

- The core concepts of PFCC defined by IPFCC: Respect & Dignity, information sharing, participation and collaboration.
- Application of PFCC in Intensive Care Units (ICU) has been appreciated by health care providers and organizations as an effective model for increasing quality of care.
- However, the concept of PFCC is broad and diverse intervention of PFCC are emphasized as different perspectives.



2. Purpose

- To describe the interventions based on PFCC four core concepts which provided Institute for Patient and Family-Centered Care (IPFCC) and the effects of PFCC in adult ICU.

3. Method

- This study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 Statement.
- Eight databases: PubMed, Cochrane Central, CINAHL, EMBASE, Psycho info, KISS, RISS, Kmbase, and KoreaMed
- Publication years : From incept to November 2, 2021
- Search term : “person-centered care”, “patient-centered care”, “patient-family centered care”, “intensive care units”
- Quality evaluation tool: Mixed Methods Appraisal Tool (MMAT).
- Inclusion criteria:
 - 1) All intervention studies based on PFCC
 - 2) Participants: ≥ 18 yrs patients/family in adult ICU.
 - 3) Outcome were reported any quantifiable measurements.

4. Results

○ The process of study selection

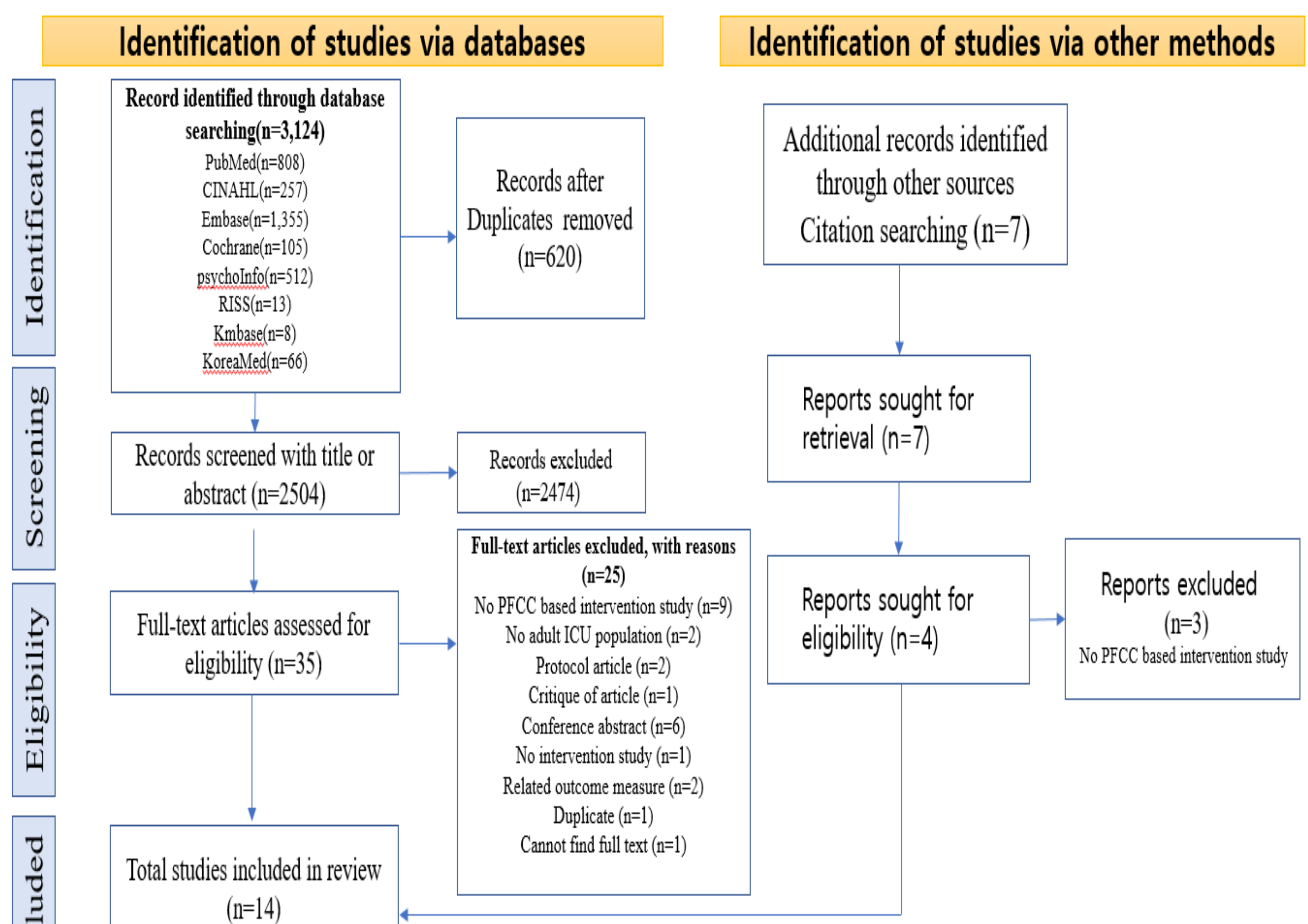


Figure 1. PRISMA flow diagram of study selection

- Identified studies: 3124 articles
- Included studies: 14 articles
- Quality assessment: Most of the included studies scored over 75% and three studies scored 50%

Table 1. Characteristics of included studies

Author, year	Country	Study design	Participants & Sample size	Interventions
1. Wai-Tong et al 2004	China	Non RCT	Family IG: n=34 CG: n=32	Individual needs based education
2. Mitchell et al, 2009	Australia	Non RCT	Patient & family IG: n=99 CG: n=75	Provide fundamental care to patients from family (massage, washing, and eye care)
3. Black et al., 2011	United Kingdom	Non RCT	Patient & family IG: n=87 CG: n=83	Provide printed introduction and booklet RN facilitate family participate interaction with pts
4. Christopher, 2012	USA	Non RCT	Family IG: n=17 CG: n=10	Application a mechanical ventilation decision aid to family members
5. Dhillon et al, 2014	USA	Non RCT	Patient & family IG: n=72 CG: n=75	Introduction of ICU care Giving information of 8 common procedures
6. Bench et al, 2015	United Kingdom	RCT(pilot)	Patient & family IG: n=51 CG1: n=59 CG2: n=48	Provide User-centered critical care discharge information pack (UCCDIP):
7. Dykes et al, 2017	USA	Non RCT	Patient & family IG: n=1030 CG: n=1075	Web-based patient-centered toolkit via iPad : patients & family access to online portal
8. Salmani et al, 2017	Iran	RCT	Patients & family IG: n=37 PG: n=36 CG: n=37	Auditory, sensory, and kinetic stimulation via family
9. Mol et al, 2017	Netherland	Non RCT	Family IG=123 CG=211	A intake interview with relatives, Provided written information Encourage writing a diary, Weekly psychosocial round
10. Azoulay et al, 2018	France	Non RCT	Patient & family IG: n=154 CG: n=148	Provide the list of 21 questions to the family
11. Cao et al, 2018	USA	Non RCT	Patient & family IG: n=367 CG: n=298	Patient-centered structured interdisciplinary bedside rounds
12. White et al., 2018	USA	RCT	Patients with SAH IG: n=547, CG: n=873 2. Family IG: n=429, CG: n=677	Nurses received training for supporting family Follow the family support pathway Intensive support by specialist
13. Jin et al, 2021	China	Non RCT	Patients with SAH IG: n=90 CG: n=90	Psychological counseling, Early physical rehabilitation Pain intervention, Complication oriented nursing
14. Yoo et al., 2021	South Korea	Non RCT	Family IG: n=28 CG: n=28	Providing personalized treatment plans for patients Communication with the medical staff Providing personal care + guide ROM exercise

Table 2. PFCC core concept and effectiveness of interventions

Study	PFCC core concept				Outcome measures	Results
	Dignity & respect	Information sharing	Participation	collaboration		
[1]	✓	✓	✓		1) Anxiety (C-STAI:A-State, A-Trait) 2) Need satisfaction (C-CCFNI)	1) Anxiety (+) 2) Need satisfaction (+)
[2]	✓	✓	✓		Family- Centered Care (FCC) survey	Family-centered care survey (+)
[3]	✓	✓	✓		1) Incidence of delirium (ICDSC)/ 1-7 days & on day 14 2) Psychological recovery: The sickness impact profile (SIP)	1) Incidence of delirium (-) 2) SIP checked (+)
[4]	✓	✓	✓		1. Primary outcome 1) Physician-surrogate discordance 2) Quality of communication 3) Comprehension of medical information 4) Decisional conflict 2. Secondary outcome 1) Feasibility : enrollment rates, 2) Acceptability, 3) Hospital cost	1. Primary outcome (+) 2. Secondary outcome (+) 1) Feasibility : high enrollment (90%), 2) Acceptability: 16 (94%) 3) Hospital cost (+)
[5]	✓	✓	✓		1) Family satisfaction(FS-ICU), 2) Nursing perception	1) Family satisfaction (+) 2) Nursing perception (+)
[6]	✓	✓	✓		1) Psychological well-being(HADS), 2) individual coping (BCOPE) 3) relatives' psychological well-being & coping 4) pts self-care	1) HADS (-) 2) Coping, self-care (-)
[7]	✓	✓	✓	✓	1) Adverse Event (AE) rate 2) Family/patient satisfaction 3) Care plan concordance 4) Resource utilization (Length of stay /30-d readmission)	1) AE rate (+) 2) Satisfaction (+) 3) Care plan concordance or resource utilization (-)
[8]	✓	✓	✓		LOC assessment: GCS score, CRS score of patients for 7 days	GCS, CRS score (+)
[9]	✓	✓	✓	✓	Consumer Quality Index (CQI R-ICU)	CQI R- ICU (+)
[10]		✓	✓		1. Primary outcome 1) comprehension (diagnosis, received Tx, likelihood of survival) 2. Secondary outcome 1) Satisfaction(CCFNI) & Anxiety, Depression (HADS)	1. Comprehension (-), 2. Satisfaction & Anxiety, Depression (-)
[11]	✓	✓	✓		1) Patient/family and HCPs satisfaction, 2) Rounding efficiency	1) Satisfaction (-) 2) HCP satisfaction of rounding (+) 3) Rounding efficiency (+)
[12]	✓	✓	✓		1) Psychological distress: HADS 2) Surrogates' PTSD 3) Quality of Communication (QOC) 4) modified Patient Perception of Patient Centeredness (PPPC) 5) Health care utilization: mean length of ICU stay	1)2) HADS, IES score (-) 3) QOC (+) 4) PPPC (+) 5) length of stay in ICU (+)
[13]	✓	✓	✓		1) General clinical treatment indicators(hospital stay) 2) Mini-Mental State Exam(MMSE) 3) Activities of daily living (ADL), 4) Mental state(SCL-90) 5) General self-efficacy scale(GSES), 6) Health knowledge 7) Incidence of complications	1) Clinical indicators (+) 2) MMSE & ADL scale (+) 3) SCL-90 (+), 4) GSES (+) 5) knowledge (+) 6) Complication(+)
[14]	✓	✓	✓		1) Family satisfaction : Korean version of FS-ICU 2) Anxiety : Visual Analog Scale (VAS)	1) Family satisfaction (+) 2) Anxiety (+)

- Participation & information sharing were the main concepts in the interventions. But, few studies included collaboration.
- The effectiveness categorized 3 aspects : patients, family members & hospital utilization.
- Positive effects : 8 studies, Mixed : 4 studies, No effect : 2 studies

5. Conclusion

- This review has provided insights about the main contents of PFCC interventions and evidences for the effects of PFCC in adult ICU.
- However, collaboration was limited in application.
- Therefore future study should be applied concept of collaboration between healthcare providers, patients and family cross diverse steps of interventions from development to evaluation.