A Comprehensive Systematic Review of Family Witnessed Resuscitation and Family Witnessed Invasive Procedures in adults in hospital settings internationally

Reviewers

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Review Objective

The objective of this comprehensive systematic review is to investigate the evidence on family witnessed resuscitation (FWR) and family witnessed invasive procedures (FWIP) in the adult population in emergency departments, intensive care units and general hospital wards internationally. The aim is to explicate the perceptions of patients, family members, physicians, and nurses regarding this phenomenon. Ultimately, through scholarly reconciliation of the evidence, healthcare policy and practice will be informed regarding this family-centered care option.

Background

'Burgeoning consumerism' [1 p. 494], the expansion of palliative and hospice care, the incorporation of family in pediatrics and midwifery arenas, transparency in healthcare organizations' reporting on performance and outcomes, layperson/bystander performance of cardiopulmonary resuscitation, and technology facilitated exposure to previously censored procedures conducted in emergency departments and trauma centers have contributed to a paradigm shift away from the paternalistic orientation of healthcare to one of respect for patient autonomy and the incorporation of family in collaborative decision-making and determination of care options[2-11]. Congruent with this family-centered focus in healthcare is a movement calling for the inclusion of FWR and FWIP.

FWR is not a novel practice; it is several decades old. It has its origins in family members being permitted by staff in the Foote Hospital Emergency Department (ED) in Jackson, Michigan to stay with their loved ones during cardiopulmonary resuscitation (CPR)[12, 13]. Positive feedback from surveys, obtained from participants in this ED experience, spurred further inquiry into this phenomenon generating a growing body of evidence worldwide in support of benefits to patients and their families and identification of positive attitudes of clinicians. Benefits to patients and families centered around: connectedness, closure, facilitation of grieving, reduction in fear, anxiety and guilt, lower degrees of intrusive imagery, post-traumatic avoidance behavior and symptoms of grief, feelings of being supportive and useful, knowing that everything possible was being done, receiving comfort, increased spiritual connectedness, and having an advocate to remind staff of [patient's] humanity[8, 13-20].

Clinicians' favorable attitudes, however, have been tempered by concerns raised about safety, the emotional responses of family members, performance anxiety and stress of healthcare providers,

fear of distraction among the CPR team, and medicolegal concerns [13, 14, 20-37]. Although nurses have more favorable attitudes than physicians, the reality is that the majority of nurses studied are not in support of this practice [5, 14, 28, 30, 35, 36, 38-44].

There is mounting evidence in acute care settings across patient populations (i.e., adults and children) that families want the choice regarding presence. A majority of families when asked if they would want to be present believe they do [13, 18, 20, 22, 45-50]. In those studies where families actually witnessed resuscitation attempts and invasive procedures, the majority found it positive and would want to do it again. Further evidence supporting the need for FWR and FWIP is found in the endorsement by numerous professional nursing and medical societies (i.e., the Emergency Nurses Association, the American Association of Critical-Care Nurses, the European Federation of Critical Care Nursing Associations, the Canadian Association of Critical Care Nursing, the American Heart Association, the American College of Critical Care Medicine, the Society of Critical Care Medicine, the American Academy of Pediatrics, the European Society of Paediatric and Neonatal Intensive Care, the European Society of Cardiology Council on Cardiovascular Nursing and Allied Professions, the European Resuscitation Council, the Resuscitation Council (UK), the Royal College of Nursing ,the British Association for Accident and Emergency Medicine, the Royal College of Paediatrics and Child Health, and the British Medical Association) [51-64]. Despite this evidence in support of positive benefits to patients, families and staff, FWR and FWIP have not been widely or formally adopted in healthcare facilities [7, 28, 43, 51, 65]. An explanation for this may reside in the lack of congruence between healthcare provider and patient/family perceptions regarding the benefits of this care practice.

Family presence has significance in terms of nursing's holistic, caring, family-centered framework and commitment to evidence-based practice supporting optimal patient/family health outcomes. As a profession, nursing is committed to the caring of patients and their families as inextricable wholes. To isolate patients from family members may run counter to nursing's commitment to patients in their totality. The medicalization of care has removed the family from life threatening situations. The priority of technologic intervention for the goal of recue has overshadowed the significance of the patient and family member, both being alone during this critical event [66].

Efforts, therefore, must be directed at critically appraising the research on FWR and FWIP. Dingeman et al. [65] have conducted a recent systematic review on the pediatric population. To date, no comprehensive systematic review of the evidence on the phenomenon of FWR or FWIP in the adult population has been conducted. This review will focus on factors which impact formal adoption of this practice internationally in acute settings with adult patient populations.

Objectives

The overall aim of this research endeavor is to conduct a comprehensive mixed methods systematic review to reconcile the evidence and provide scholarly insight toward informing practice regarding this family-centered care option.

Specifically, the comprehensive systematic review will determine:

- The beliefs of patients, family members, physicians and nurses relevant to perceived or actual FWR and FWIP in adult acute care settings
- The meaning of the experience of FWR and FWIP for patients, family members, physicians and nurses

- Factors which are associated with acceptance or rejection of FWR and FWIP by patients, families, physicians and nurses
- The impact of family presence on efficiency and perceived competence of resuscitation and invasive procedures for adults in acute care settings
- Strategies found to be effective in facilitating safety in the practice of FWR and FWIP for patients, family members, physicians and nurses
- Congruity of outcomes in studies evaluating witnessed events compared to outcomes of perceptions and beliefs regarding FWR and FWIP
- Essential points for policy development

Inclusion Criteria

Participants

This review will consider studies involving adult patients, their family members, physicians and nurses in intensive care units, emergency departments, trauma rooms and general nursing wards.

Studies involving FWR or FWIP conducted in the field or in the home will be excluded.

Types of Interventions/Phenomena of Interest

The quantitative component of this review will:
1) examine outcomes associated with FWR and FWIP on patients' and family members' including but not limited to:

- Stress and anxiety
- Grief and bereavement
- Coping
- Psychological sequelae

2) examine physicians' and nurses' actual or perceived responses to FWP and FWIP including but not limited to:

- Stress and performance anxiety
- Interference with teaching
- Competence in resuscitation performance
- Adequacy in meeting patient or family needs
- Safety
- Medicolegal litigation potential
- Connection with patients

3) examine factors impacting the adoption/implementation of FWR and FWIP including but not limited to:

- Formal policy and guidelines
- Family Facilitator/Chaperone Role
- Educational programming
- Communication approaches
- Debriefing

The qualitative component of this review will consider studies that investigate the meaning of FWR and FWIP for patients, family members, physicians and nurses in intensive care units, emergency departments, trauma rooms and general nursing wards.

The textual component of this review will examine position statements and guidelines with respect to FWP and FWIP.

<u>Outcomes</u>

The quantitative component of this review will consider studies that include, but are not limited to, the following outcome measures for:

1) patients and family members: anxiety levels, stress, fear, guilt, depression, avoidance, intrusive images, knowledge, helpfulness, symptoms of grief, bereavement, psychological acceptance and adaptation

2) physicians and nurses: performance anxiety, advocacy for patients and families, interference with teaching and or resuscitation performance, litigation potential

The qualitative component of this review will include experiential and perceptual accounts on the meaning of FWR and FWIP of patients, family members, physicians and nurses. Additionally, it will identify perceptions of factors facilitating or obstructing FWP or FWIP.

The textual component of this review will describe key components for policies on FWR and FWIP.

<u>Types of Studies</u>

The quantitative component of this review will consider randomized controlled trials, controlled trials, cohort studies, case-control studies, before and after studies and case series that examine the effectiveness of interventions such as staff education programs and family support personnel on outcomes.

The qualitative component of this review will consider studies that focus on qualitative data including, but not limited to, designs such as phenomenology, grounded theory and ethnography. In the absence of research studies, other text such as opinion papers and reports will be considered.

The textual component of this review will consider position papers of professional healthcare organizations and evidence-based guidelines.

Search Strategy

The search strategy aims to locate both published and unpublished studies. A three-step search strategy will be utilized in each component of this review. An initial limited search of MEDLINE and CINAHL will be undertaken followed by analysis of the text words contained in the title and abstract, and of the index terms used to describe the article. A second search using all identified keywords and index terms will then be undertaken across all included databases. Thirdly, the reference list of all identified reports and articles will be searched for additional studies.

Keywords to be used are:

Concept 1:
(Famil* or member* or relative* or support) and presence
(Famil* or member* or relative* or support) and (protocol or policy)
Holistic or Pastoral care
Witnessed resuscitation
Witnessed cardiac arrest
Chaperone* resuscitation

AND
Concept 2:
Intensive Care Unit or Critical Care Unit
Trauma room
Hospital ward*
Emergency and (department* or ward* or room* or service*)
Nursing Units
Accident & Emergency

AND
Concept 3:
Cardiopulmonary resuscitation
CPR
Trauma resuscitation
Surgical procedures, invasive
Invasive procedures

Concepts searched within the search results obtained from the above literature search

Invasive Procedure
Venipuncture
Urethral catheterization
Lumbar puncture
Chest tube
Tube thoracostomy
Pericardiocentesis
Intubation
Endotracheal tube
Tracheostomy
Central or Arterial line
Defibrillation
Cardiac massage
Emergency breathing
Cardiopulmonary resuscitation or CPR
Trauma resuscitation
Family-centered care
Patient-centered care
Professional-family relations
Family or Patient needs
Nurs*

Physicians
Healthcare Provider
Healthcare professional
Chaperone
Facilitator
Behavio?r
Perspective
Perceptions
Experiences
Beliefs
Patients Rights
Patient comfort
Grief or Bereavement
Post traumatic stress disorder or PSTD
Palliative care
Decision making
Randomi?ed controlled trial, randomi?ed clinical trial
Qualitative study or research or analysis
Systematic review
Hospital policy

Databases
Searches will be conducted on the following:

- CINAHL
- MEDLINE
- OCLC
- Psycinfo
- ISI Web of Knowledge
- ERIC
- Evidence Based Medicine Reviews
- EMBASE

The following registries will be searched:

- JBI
- Cochrane Collection
- Sara Cole Hirsch Institute

Unpublished Studies

The following databases will be searched for Dissertations & theses:

- DAI
- PQDT

Additional searching for unpublished studies will be accomplished by communication with key organizations and key researchers in the area.

Grey Literature
A Grey Literature search will be conducted through New York Academy of Medicine, MEDNAR, RAND, SCIRUS, health-evidence.ca.

Assessment of Methodological Quality
All retrieved papers will be assessed for methodological quality independently by two reviewers, using the appropriate JBI critical appraisal assessment tools (Appendices I – V). Any disagreements that arise between the reviewers will be resolved through discussion, or in consultation with a third reviewer.

Data Collection
Relevant JBI data extraction tools will be used to extract data from quantitative studies, qualitative studies and opinion pieces (Appendices VI – VIII). This process will be undertaken by two reviewers working independently. The data extracted will include specific details about the phenomena of interest, interventions, populations, study methods and outcomes of significance to the review question and specific objectives.

Data Synthesis
Quantitative papers will, where possible will be pooled in statistical meta-analysis using the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instrument. All results will be subject to double data entry. Odds ratios (for categorical data) and weighted mean differences (for continuous data) and their 95% confidence intervals will be calculated for analysis. Heterogeneity will be assessed using the standard Chi-square. Where statistical pooling is not possible, the findings will be presented in narrative form.

Qualitative research findings will, where possible, be pooled using the Qualitative Assessment and Review Instrument. This will involve the aggregation or synthesis of findings to generate a set of statements that represent that aggregation, through assembling the findings (Level 1 findings) rates according to their quality, and categorizing these findings on the basis of similarity in meaning (Level 2 findings). These categories are then subjected to a meta-synthesis in order to produce a single comprehensive set of synthesized findings (Level 3 findings) that can be used as a basis for evidence-based practice. Where textual pooling is not possible, the findings will be presented in narrative form.

Textual papers will, where possible, be pooled using the Narrative, Opinion and Text Assessment and Review Instrument. This will involve the aggregation or synthesis of conclusions to generate a set of statements that represent that aggregation, through assembling the conclusions to generate a set of statements that represent that aggregation, through assembling and categorizing these conclusions on the basis of similarity in meaning. These categories are then subjected to a meta-synthesis in order to produce a single comprehensive set of synthesized findings that can be used as a basis for evidence-based practice. Where textual pooling is not possible, the conclusions will be presented in narrative form.

Conflicts of Interest

There are no conflicts of interest. The reviewers are employed in education and clinical service.

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Appendix I:

JBI Critical Appraisal Checklist for Experimental Studies

Reviewer ___________________

Author _____________________ Year __________ Record Number ______

	Yes	No	Unclear
1. Was the assignment to treatment groups truly random?	☐	☐	☐
2. Were participants blinded to treatment allocation?	☐	☐	☐
3. Was allocation to treatment groups concealed from the allocator?	☐	☐	☐
4. Were the outcomes of people who withdrew described and included in the analysis?	☐	☐	☐
5. Were those assessing outcomes blind to the treatment allocation?	☐	☐	☐
6. Were the control and treatment groups comparable at entry?	☐	☐	☐
7. Were groups treated identically other than for the named interventions?	☐	☐	☐
8. Were outcomes measured in the same way for all groups?	☐	☐	☐
9. Were outcomes measured in a reliable way?	☐	☐	☐
10. Was appropriate statistical analysis used?	☐	☐	☐

Overall appraisal: ☐ Include ☐ Exclude ☐ Seek further info.

Comments (Including reasons for exclusion)

Appendix II

JBI Critical Appraisal Checklist for Descriptive/Case Series Studies

	Yes	No	Unclear
1. Was study based on a random or pseudo-random sample?	☐	☐	☐
2. Was the criteria for inclusion in the sample clearly defined?	☐	☐	☐
3. Were confounding factors identified and strategies to deal with them stated?	☐	☐	☐
4. Were outcomes assessed using objective criteria?	☐	☐	☐
5. If comparisons are being made, were there sufficient description of the groups?	☐	☐	☐
6. Was follow-up carried out over a sufficient time period?	☐	☐	☐
7. Were the outcomes of people who withdrew described and included in the analysis?	☐	☐	☐
8. Were outcomes measured in a reliable way?	☐	☐	☐
9. Was appropriate statistical analysis used?	☐	☐	☐

Overall appraisal: ☐ Include ☐ Exclude ☐ Seek further info.

Comments (Including reasons for exclusion)

Appendix III

JBI Critical Appraisal Checklist for Comparable Cohort/ Case Control

	Yes	No	Unclear
1. Is sample representative of patients in the population as a whole?	☐	☐	☐
2. Are the patients at a similar point in the course of their condition/illness?	☐	☐	☐
3. Has bias been minimized in relation to selection of cases and controls?	☐	☐	☐
4. Are confounding factors identified and strategies to deal with them stated?	☐	☐	☐
5. Are outcomes assessed using objective criteria?	☐	☐	☐
6. Was follow up carried out over a sufficient time period?	☐	☐	☐
7. Were the outcomes of people who withdrew described and included for analysis?	☐	☐	☐
8. Were outcomes measured in a reliable way?	☐	☐	☐
9. Was appropriate statistical analysis used?	☐	☐	☐

Overall appraisal: ☐ Include ☐ Exclude ☐ Seek further info.

Comments (Including reasons for exclusion)

Appendix IV

JBI QARI Critical Appraisal Checklist for Interpretive & Critical Research

	Yes	No	Unclear
1. Is there congruity between the stated philosophical perspective and the research methodology?	☐	☐	☐
2. Is there congruity between the research methodology and the research question or objectives?	☐	☐	☐
3. Is there congruity between the research methodology and the methods used to collect data?	☐	☐	☐
4. Is there congruity between the research methodology and the representation and analysis of data?	☐	☐	☐
5. Is there congruity between the research methodology and the interpretation of results?	☐	☐	☐
6. Is there a statement locating the researcher culturally or theoretically?	☐	☐	☐
7. Is the influence of the researcher on the research, and vice-versa, addressed?	☐	☐	☐
8. Are participants, and their voices, adequately represented?	☐	☐	☐
9. Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	☐	☐	☐
10. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	☐	☐	☐

Overall appraisal: ☐ Include ☐ Exclude ☐ Seek further info.

Comments (Including reasons for exclusion)

Appendix V

JBI Critical Appraisal Checklist for Narrative, Expert opinion & text

	Yes	No	Unclear
1. Is the source of the opinion clearly identified?	☐	☐	☐
2. Does the source of the opinion have standing in the expertise/community?	☐	☐	☐
3. Are the interests of patients/clients the central focus of the opinion?	☐	☐	☐
4. Is the opinion's basis in logic/experience clearly argued?	☐	☐	☐
5. Is the argument developed analytically?	☐	☐	☐
6. Is there reference to the extant literature/evidence and incongruency with it logically defended?	☐	☐	☐
7. Is the opinion supported by peers?	☐	☐	☐

Overall appraisal: ☐ Include ☐ Exclude ☐ Seek further info.

Comments (Including reasons for exclusion)

Appendix VI

JBI Data Extraction Form for Experimental/Observational Studies

Study Method

☐ RCT ☐ Quasi-RCT ☐ Longitudinal

☐ Retrospective ☐ Observational ☐ Other

Participants

Setting

Population

Sample size

☐Intervention 1 ☐Intervention 2 ☐Intervention 3 _______

Interventions Described

Intervention 1

Intervention 2

Intervention 3

Clinical outcome measures

Outcome Description	Scale/measure

Study results

Dichotomous data

Outcome	Intervention ( ) number / total number	Intervention ( ) number / total number

Continuous data

Outcome	Intervention ( ) number / total number	Intervention ( ) number / total number

Authors conclusions

Comments

Appendix VII

JBI QARI Data Extraction Form for Interpretive & Critical Research

Study Description

Methodology

Intervention

Setting

Geographical

Cultural

Participants

Data analysis

Authors Conclusions

Comments

Findings	Illustration from Publication (page number)	Evidence		
		Unequivocal	Credible	Unsupported

Extraction of findings complete ☐ YES ☐ NO

Appendix VIII

JBI Data Extraction for Narrative, Expert, Opinion Text

Study Description

Type of Text

Those Represented

Stated Allegiance/Position

Setting

Geographical

Cultural

Logic of Argument

Authors Conclusion

Reviewers Comments

Conclusions	Illustration from Publication (page number)	Evidence		
		Unequivocal	Credible	Unsupported

Extraction of findings complete