<table>
<thead>
<tr>
<th>No</th>
<th>Author</th>
<th>Setting, country</th>
<th>Aim</th>
<th>Participants</th>
<th>Methods</th>
<th>Findings (Themes)</th>
</tr>
</thead>
</table>
| 1  | Aghabarary, 2016             | Critical care units, Iran | Exploring Iranian nurses’ perceptions of futile care                 | 20 nurses    | A qualitative exploratory study, the conventional content analysis approach | The nonfutility of care: care tantamount with outcome  
• Care as a purposeful and inevitable process  
• The necessity for differentiating between medical futility and futile care  
Sense of burnout  
• Ineffective interventions and tragic end  
• Burnout-induced malpractice  
Subjectivity and relativity of the concept of medical futility  
• Differences in patients, families, and health care professionals’ values and preferences  
• Vagueness of boundaries                                                                                                                                 |
| 2  | Aghabarary, 2017             | Critical care units, Iran | Exploring Iranian nurses’ and physicians’ perceptions of the reasons behind providing futile medical treatments | 21 nurses, 9 physicians | A qualitative exploratory design using in-depth, semi-structured interviews and conventional content analysis | Having an obligation to provide medical treatments despite knowing their futility  
• Patients’ and family members’ request for continuing life-sustaining treatments  
  ▪ Religious and cultural beliefs  
  ▪ Preventing prospective pangs of conscience  
  ▪ Patients’ and family members’ unrealistic expectations from medical technology  
  ▪ Patients’ and family members’ fear over loneliness and being neglected  
  ▪ Fulfilling patients’ and family members’ emotional needs  
  ▪ Healthcare professionals’ personal motives  
  ▪ Adherence to religious beliefs  
  ▪ Commitment to legal, ethical, and professional responsibilities  
  ▪ Healthcare professionals’ uncertainty over terminality  
  ▪ Fears and worries  
  ▪ Emotions and feeling of empathy with patients’ family members  
  ▪ Providing opportunities for medical advancements  
  ▪ Taking personal and professional profits  
  ▪ Organizational atmosphere and structure  
  ▪ Lack of legal permission for discontinuing treatments Structural and functional defects of ethics committees  
  ▪ Lack of proportionate palliative care centers, hospices, and home care facilities |
| 3  | Badger, 2005                  | Medical intensive care unit, United States | Describing MICU nurses’ coping behaviors while caring for a patient whose medical treatment transitioned from cure- to comfort-oriented care | 24 nurses    | A descriptive qualitative research design                                    | Coping strategies  
• Cognitive techniques  
  ▪ Putting up with it: visualizing, learning from experience, reminiscing, and putting things into perspective  
• Affective techniques  
  ▪ Laughter, externalizing feelings, and emotionally compartmentalizing  
• Behavioural techniques  
  ▪ Retreating, avoiding, and distancing behaviours |
<table>
<thead>
<tr>
<th>No</th>
<th>Author (first), year</th>
<th>Setting, country</th>
<th>Aim</th>
<th>Participants</th>
<th>Methods</th>
<th>Findings (Themes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Bruce, 2015</td>
<td>Intensive care units, United States</td>
<td>Determining the key sources of moral distress in diverse critical care professionals and how they manage it in the context of team-based models</td>
<td>16 nurses, 7 physicians and 7 Ancillary Staff</td>
<td>Case study using structured interview</td>
<td>Sources of Moral Distress: Intrateam discordance, Nonbeneficial treatment, Lack of full disclosure, Clinician-patient/family discordance, Intrafamily discordance. Maladaptive behaviors: Pas-de-deux, Fighting, Desensitization. Constructive behaviors: Venting, Mentoring, Building team cohesion.</td>
</tr>
<tr>
<td>5</td>
<td>Choi, 2022</td>
<td>Intensive care unit, South Korea</td>
<td>Exploring nurse’s, physician’s and family member’s experiences of withholding or withdrawing life-sustaining treatment in an intensive care unit</td>
<td>23 nurses, 10 physicians and four family members</td>
<td>Focused ethnography using semi-structured interview and thematic analysis</td>
<td>Constructing death: Family member’s power, Family value, Legal requirement, Key family member, Financial issues, Continuation of Life-sustaining treatment, The value of family presence. Medical consideration: Treatment futility, Compromised decisions. Patient’s dignity: Visualising patient’s suffering, Desiring a comfortable death, Patient’s consciousness, Patient’s wishes. Customer ideology: Customer ideology, Customer-service provider relationship.</td>
</tr>
<tr>
<td>6</td>
<td>Close, 2019</td>
<td>Three tertiary hospitals in metropolitan Brisbane, Australia</td>
<td>Increasing knowledge of how doctors perceive futile treatments and scarcity of resources at the end of life. In particular, their perceptions about whether and how resource limitations influence end-of-life decision making.</td>
<td>11 medical specialties</td>
<td>Qualitative study using in-depth, semistructured, face-to-face interviews</td>
<td>Perceptions of the relevance of resources to doctors’ current practice: • Resources are not relevant to decisions to withhold or withdraw life-sustaining treatment • Resources are relevant to decisions to withhold or withdraw life-sustaining treatment • Resources are relevant but are a secondary consideration • Situations when resources are the main driver of decisions Perceptions of the relationship between resources and the concept of ‘futility’: • Resource considerations are part of the definition of futility • ‘Futility’ is used to conceal rationing Resource-related distress and recommendations to address it: • The waste and opportunity cost of futile treatment causes distress • Distress related to being forced into a gatekeeping role without appropriate supports • ‘Scepticism that the government will engage in rationing end-of-life care.</td>
</tr>
<tr>
<td>No</td>
<td>Author (first), year</td>
<td>Setting, country</td>
<td>Aim</td>
<td>Participants</td>
<td>Methods</td>
<td>Findings (Themes)</td>
</tr>
<tr>
<td>----</td>
<td>----------------------</td>
<td>------------------</td>
<td>-----</td>
<td>-------------</td>
<td>---------</td>
<td>------------------</td>
</tr>
</tbody>
</table>
| 7  | Espinosa, 2010       | Intensive care units, United States | Exploring the experiences of intensive care nurses who provide terminal care in the ICU | 18 registered nurses | A descriptive phenomenological approach | Barriers to optimal care  
Lack of involvement in the plan of care  
Differences between the medical and nursing practice models  
Disagreement among physicians and other healthcare team members  
Perception of futile care and unnecessary suffering  
Unrealistic expectations of the family  
Lack of experience and education of the nurse  
Internal conflict  
Feelings of relief  
Desire for patient comfort and good memories for family  
Abandonment and powerlessness  
Medication administration  
Difficulty with younger patients  
Coping  
Building trust with the family  
Crying  
Humor  
Talking to others about terminal care  
Avoiding care for the terminal patients |
| 8  | Heland, 2006         | An adult intensive care unit, Australia | Investigating the perceptions and experiences of nurses practising in adult intensive care units with regard to medical futility | Seven intensive care nurses. | A qualitative exploratory descriptive design | • Intensive care nurses' definition of medical futility  
• Medical futility and challenges for nurses/engagement in decision making  
• Medical futility and the intensive care nursing role |
| 9  | Hsu, 2018            | An intensive care unit, Taiwan | Understanding the medical futility experiences of ICU nurses. | Eight intensive care nurses | A phenomenological perspective | • Definitions of Medical Futility and Types of Patients  
• Considerations of Medical Futility  
• The Occurrence of Medical Futility  
• Nurses’ Responses to Medical Futility |
| 10 | Nikbakht Nasrabadi, 2021 | An intensive care unit, Iran | Exploring the nurses’ experience of moral distress in the long-term care of older adults | Nine critical care nurses | A phenomenological method by Van Manen | Advocating  
Good dying  
Symptom management  
Defense mechanisms  
Coping  
Spirituality  
Care burden  
Futile care  
Emotional work  
Powerlessness  
Relationship  
Relationship between patient and family  
Relationship with healthcare team  
Relationship with institution  
Organizational issues  
Inadequate staffing  
Inadequate training, preparation, education, or mentoring  
Workload and Support |
<table>
<thead>
<tr>
<th>No</th>
<th>Author (first), year</th>
<th>Setting, country</th>
<th>Aim</th>
<th>Participants</th>
<th>Methods</th>
<th>Findings</th>
</tr>
</thead>
</table>
| 11 | Pattison, 2013       | A specialist hospital, United Kingdom | Exploring the meaning of the issues around end-of-life care, of dying, and those caring for, and witnessing the dying of critically ill cancer patients, as explored through family, practitioner and patient experiences | Seven critical care consultants, seven critical care nurses, two oncologists, two palliative care consultants, seven patients, six patient’s spouses, six bereaved families | Heideggerian phenomenology using van Manen and Attride-Stirling’s thematic network analysis | **Essence: Continuum of moving to EOL in cancer critical illness**  
- Global Order themes  
  - Dual prognostication  
  - The meaning of decision-making  
  - Care practices at end of life: choreographing a good death  
- Organising themes  
  - Family vs patients’ split loyalties  
  - A good death  
  - Involvement in care  
  - Personal dissonance  
  - Reaching the defining futility  
  - Thinking the unthinkable  
  - Domains of knowledge  
  - Story of cancer and critical care  
  - Emotions of EOL work |
| 12 | Vieira, 2022         | An adult intensive care unit, Portugal | Identifying the perceptions of expert nurses from adult intensive care units about therapeutic futility in nursing | Five nurses | Focus group interview and conventional content analysis | **Situation of declared futility in nursing**  
- Biophysiological indicators incompatible with life  
- Intensive care culture of life extension  
- Surgical situations of high irreversibility, uncontrollable, associated with severe comorbidities  
- Contexts in which, according to scientific evidence, the results are unattainable and do not justify the implementation of interventions  
**Futile nursing interventions**  
- Interdependent nursing interventions  
- Autonomous nursing interventions  
- Interventions implemented exclusively by norms or protocols, routines, scores  
- Interventions associated with exclusively diagnostic complementary exams  
**Recognition of therapeutic futility in nursing**  
- By the nursing team  
- By the family  
**Scope of therapeutic futility in nursing**  
- Ridicule of care  
- Transposing the limits of interventions and care  
- No benefit  
- Therapeutic incarceration |
<table>
<thead>
<tr>
<th>No</th>
<th>Author (first), year</th>
<th>Setting, country</th>
<th>Aim</th>
<th>Participants</th>
<th>Methods</th>
<th>Findings</th>
</tr>
</thead>
</table>
| 13 | Voultsos, 2021       | University nursing school, Greece | Investigating the medical futility experiences of nurses with a long history of caring for severely ill or terminally ill patients. | 16 nurses (at least 10 year experiences of caring severely and critically ill patients) | A prospective qualitative study | • The concept of “futile medical care”  
• Patient reliance on machines – technological dependency  
• Reasons behind providing futile medical care  
• Consumption of considerable resources  
• Who is the decider? The nursing professionals’ role in deciding on the futility of a certain treatment  
• Provision of information to family members  
• Participants’ personal responses to situations where futile care is provided  
• The concept of a “good or dignified death” |
| 14 | Willmott, 2016       | Three tertiary public hospitals, Australia | Exploring in detail doctors’ perceptions of the key reasons why futile treatment is provided | 96 physicians (15 emergency, 12 intensive care, 10 palliative care, 10 oncology, 9 renal medicine, 9 internal medicine, 9 respiratory medicine, 8 surgery, 5 cardiology, 5 geriatric medicine and 4 medical administrators) | A qualitative study using semi-structured interview | Doctor-related factors:  
- Trained to treat  
- Inexperience with death and dying  
- Don’t want to give up hope  
- Aversion to death  
- Worries about legal risk  
- Poor communication  
- Doing everything possible  
- Emotional attachment to patients  
- Personality, personal experiences or religion  
Patient-related factors:  
- Family or patient request  
- Prognostic uncertainty  
- Lack of information about patient wishes  
Hospital-related factors:  
- Specialisation  
- Medical hierarchy  
- Hospitals designed to provide acute care so it does  
- Hard to stop once started  
- Time pressure  
- After-hours care |
| 15 | Workman, 2003        | Six university-affiliated intensive care units, Canada | Developing an empiric description of intensive care unit (ICU) physicians’ and nurses’ (participants) experiences providing life-sustaining treatments at the insistence of family members, treatments that they believed should have been withheld or withdrawn. | Six nurses and six physicians | A qualitative study using semi-structured, open-ended interview | • The suffering of dying patients  
• Distressed family members  
• A breakdown in the relationship with family members |
<table>
<thead>
<tr>
<th>No</th>
<th>Author (first), year</th>
<th>Setting, country</th>
<th>Aim</th>
<th>Participants</th>
<th>Methods</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Yekefallah, 2015</td>
<td>11 teaching hospitals, Iran</td>
<td>Defining the concept of futile care in the viewpoints of nurses working in intensive care units (ICUs)</td>
<td>25 nurses</td>
<td>A phenomenological study by Van Manen</td>
<td>Uselessness</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Waste of resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Torment</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aspects of futility</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Measures taken by the nursing team</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>