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# Futile life-sustaining treatment in the intensive care unit – nurse and physician experiences: meta-synthesis

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## ABSTRACT

**Background** Continuing futile life-sustaining treatment prolongs patients' suffering and family members' and medical staff's psychological distress. Additionally, continuing futile treatment is inefficient in healthcare resource distribution. Although the withdrawal of futile life-sustaining treatment is ideal, the prevalence is variable.

**Objective** To synthesise nurses' and physicians' experiences with continuing futile life-sustaining treatment in the intensive care unit.

**Design** This meta-synthesis was conducted following the thematic synthesis. The Preferred Reporting Items for Systematic Review and Meta-Analyses and Enhancing transparency in reporting the synthesis of qualitative research statement were used in reporting the synthesis of qualitative research statements.

**Methods and data sources** A systematic search was conducted following the inclusion and exclusion criteria in APA PsycINFO, CINAHL Plus, EMBASE, MEDLINE, PubMed and Web of Science in May 2023. Two reviewers independently screened and extracted the data. The extracted data were analysed using thematic analysis of qualitative research.

**Findings** A total of 16 studies were finally included, and 141 quotes were extracted and analysed. The main findings were categorised into four themes: (1) contextual and cultural diversity, (2) perceptions of futile treatment, (3) professional roles and responsibilities, and (4) emotional distress.

**Conclusion** The study highlights the influence of culture, religion and family members, as well as perceptions of futile treatment among clinicians, on continuing futile life-sustaining treatment. Also, nurses' awareness of their roles and responsibilities in ensuring patients' comfort at end of life was revealed. This study informs future research to explore the experiences of futile life-sustaining treatment across various contexts.

## INTRODUCTION

The intensive care unit is designed to provide the best possible treatment to critically ill patients in the midst of dying and death. Indeed, intensive care contributes to the patient's recovery from critical illnesses through highly developed technologies and the highest staffing levels among hospital units. Nonetheless, the mortality rate in the intensive care unit is the highest among the inpatient units due to the patient's critical illness, which means that intensive care unit staff experience a transition from active treatment and care to patient's dying and death at some point. When a patient under intensive care is evidently dying and the current treatments do not benefit the patient's recovery, the treatment is considered as futile.

Treatment futility refers to 'interventions that cannot accomplish the intended physiological goals'<sup>1</sup> (p.1319). When a treatment is considered life-sustaining or life-prolonging, treatment futility is a key prerequisite. The term futility has been criticised due to the lack of a clear consensus and its dehumanised nuance.<sup>2</sup> Accordingly, some terminologies were suggested to replace 'futility' such as 'potentially inappropriate' or 'non-beneficial'. The suggested terms considered family members' vulnerability to the patient's dying and death, since the term 'futility' could be perceived as disrespecting the values and beliefs of the patient and family members.<sup>3</sup> However, the terms 'potentially inappropriate' and 'non-beneficial' were also argued for their comprehensive contextual and circumstantial meanings. Instead, 'futility' was advocated by its advantage of clearly indicating medical consideration, identifying



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**WHAT WAS ALREADY KNOWN?**

- ⇒ The continuation of futile life-sustaining treatment extends the patient's suffering, wastes healthcare resources and causes emotional distress to medical staff.
- ⇒ Ideally, futile life-sustaining treatment should be withdrawn. However, the global prevalence of withdrawing life-sustaining treatment varies by country or region.

**WHAT ARE THE NEW FINDINGS?**

- ⇒ The continuation of futile life-sustaining treatment decisions is made by family members and medical staff sharing cultural or religious contextual understanding.
- ⇒ The decision to continue futile life-sustaining treatment following contextual understanding may collide with the patient's comfortable and dignified death. Therefore, family members' wishes should be carefully distinguished from the patients' quality of end of life.
- ⇒ While continuing futile life-sustaining treatment, medical staff seek and perform their roles and responsibilities for the patient and family members.

**WHAT IS THEIR SIGNIFICANCE?****a. Clinical**

- ⇒ Although treatment futility is a medical consideration, decision-making should consider contextual understanding, including culture and religion, in practice.
- ⇒ Considering the potential collision between the patient's dignified dying and the family members' perceptions and interests, the family members' wishes should be carefully distinguished from the patient's quality of end of life in practice.

**B. RESEARCH**

- ⇒ Future studies should be conducted to explore cultures and values regarding the continuation of futile life-sustaining treatment in Latin America, Africa and Asia.

the limitation of aggressive treatment and reminding of human being's mortality.<sup>4,5</sup>

Providing futile treatment impacts not only the patient but also family members, medical staff and society. A patient's quality of end of life was immensely affected by the provision of futile treatment considering the invasiveness and intensity of treatment in the intensive care unit.<sup>6</sup> Although patients suffer in the intensive care environment, the invasive treatments are justified for a greater benefit, which is the patient's recovery. However, futile treatment implies a lack of hope for the patient's recovery, which means that continuing futile treatment prolongs the patient's suffering. Likewise, family members of a patient in the intensive care unit often experience psychological distress such as anxiety, sleep disturbance and fatigue because of the patient's severity of illness, stressful intensive care environment and restricted visiting hours.<sup>7</sup> Also, providing futile care and treatment causes intensive care unit staff moral distress, burnout and thoughts of leaving their jobs.<sup>8-10</sup>

From an ethical perspective, providing active treatment that is medically considered futile can be inefficient.<sup>11,12</sup> Assuming that healthcare resources are an asset of society, intensive and critical care resources should be used efficiently in a society. However, providing futile treatment at the end of life does not benefit the efficient distribution for a society. Accordingly, futile treatment is considered life-sustaining or life-prolonging and the withdrawal of life-sustaining treatment decisions is a shared consensus.<sup>13,14</sup>

Although withdrawing futile life-sustaining treatment is widely implemented globally, the prevalence of withdrawing futile life-sustaining treatment varied depending on the region.<sup>15,16</sup> The various prevalence of withdrawing futile life-sustaining treatment relied on cultural homogeneity<sup>15</sup> and national or regional income levels.<sup>6,16</sup> Additionally, the prevalence of withdrawing futile life-sustaining treatment revealed that futile life-sustaining treatment is continued for contextual reasons by region and country, contrariwise.

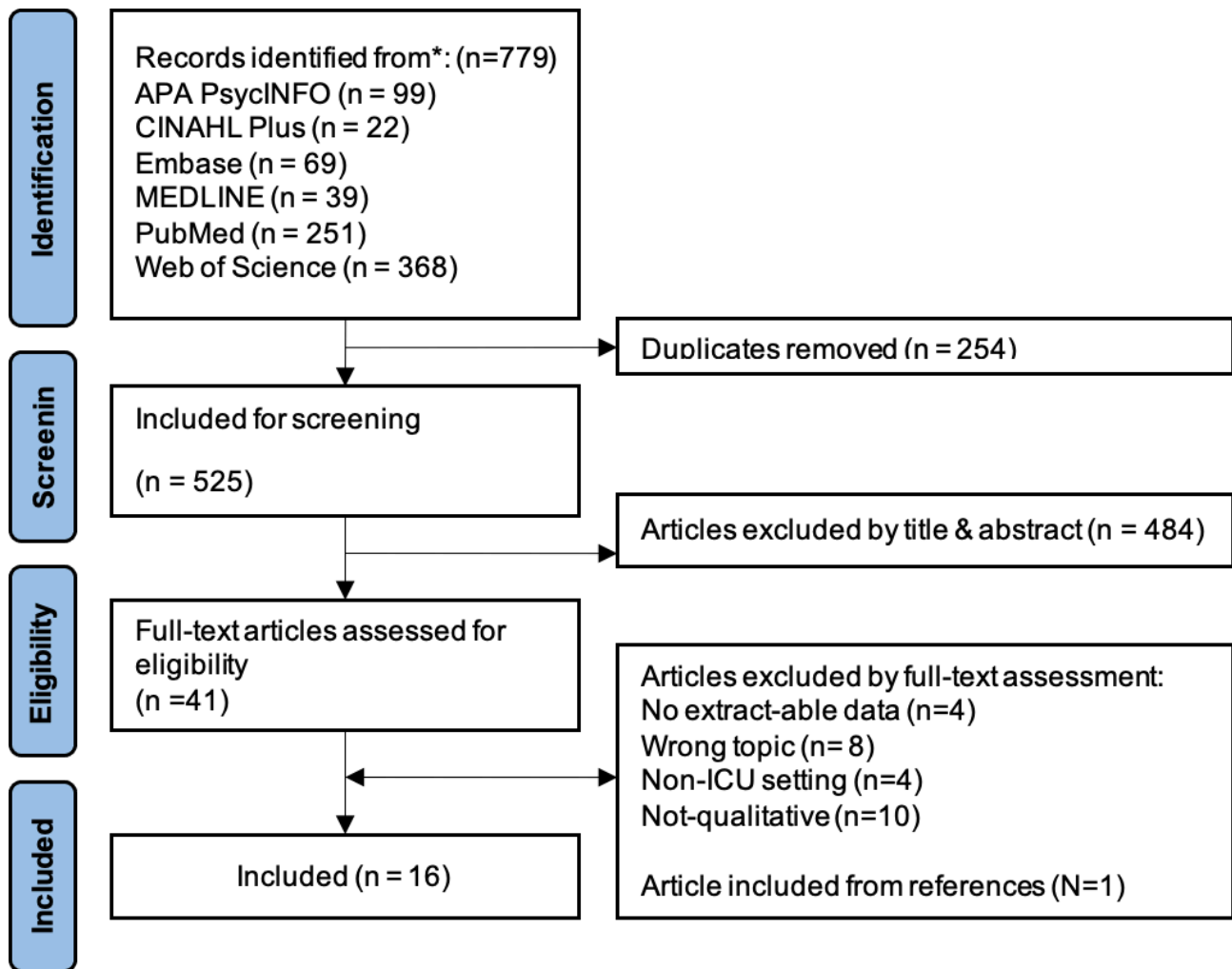
However, the reasons between context and continuing futile life-sustaining treatment have not been explored in depth. Although a meta-synthesis study regarding the experiences of withdrawing futile life-sustaining treatment was conducted, the study integrated and interpreted the experiences of withdrawing life-sustaining treatment instead of exploring the contexts.<sup>17</sup> Therefore, this meta-synthesis study aimed to explore contextual understanding of continuing futile life-sustaining treatment by synthesising the nurses' and physicians' experiences of continuing futile life-sustaining treatment in intensive care units.

**METHODS****Study design**

This meta-synthesis was conducted following thematic synthesis which provides a detailed process for the translation of concepts between qualitative studies.<sup>18</sup> Preferred Reporting items for Systematic Review and Meta-Analyses<sup>19</sup> and Enhancing transparency in reporting the synthesis of qualitative research (ENTREQ) statement<sup>20</sup> were chosen to interpretively integrate the in-depth experiences and perspectives of nurses and physicians about continuing life-sustaining treatment across healthcare contexts<sup>18,20,21</sup> (see the systematic process of synthesis in figure 1). This study has not been registered to any review registry, since the study findings were not linked to the health outcomes.

**Search strategy**

Search terms were designed by the authors considering the perspectives of nurses and physicians, settings of intensive and critical care, qualitative methodology and the topic of continuing life-sustaining or futile treatment. Full search terms are attached in online supplemental material I. The search was conducted in APA PscINFO, CINAHL Plus, EMBASE, MEDLINE, PubMed and Web of Science in May 2023. The search



**Figure 1** Preferred Reporting Items for Systematic Review and Meta-Analyses flow chart of searching literature. ICU, intensive care unit.

results were filtered by peer review, full-text availability and English language. Studies using any qualitative methodologies using quotes from nurses and physicians in the intensive or critical care settings about continuing life-sustaining treatment were included.

#### Study selection, data extraction and study appraisal

Two reviewers (HRC and MHH) independently screened the search results following the inclusion criteria. EndNote was used to eliminate the duplicates and screen the title and abstract as the reviewers' preference. As a result of the literature search from five databases, 779 peer-reviewed studies were identified. A total of 254 articles were excluded as duplicates. The screening of titles and abstracts considered 484 studies as irrelevant due to publication type such as conference abstract, language and topics. Subsequently, 41 studies were assessed in full text and 26 studies were excluded by methodology, setting, topic and extractable quotations in studies. Apart from the search result, one study was included from the reference. Therefore, 779 studies were screened and

narrowed down to 41 for the full-text eligibility check. The full text of 41 articles was evaluated guided by the modified critical appraisal skills programme qualitative checklist tool.<sup>22</sup> The modified critical appraisal skills programme checklist was chosen because of its consideration of theoretical underpinnings of qualitative research in addition to the conventional critical appraisal skills programme checklist. Additionally, the modified critical appraisal skills programme checklist distinguishes 'somewhat' from 'yes' when a study does not fully meet the appraisal criteria. However, since the inclusion of studies was not decided by the appraisal criteria, but the criteria were used to report, this meta-synthesis did not distinguish 'somewhat' from 'yes' but used only 'yes'. The results of the quality appraisal of the included studies are presented in [table 1](#). After the included articles were confirmed, data extraction was subsequently performed by the reviewers. The extracted data were direct quotations of intensive care unit nurses and physicians about continuing futile life-sustaining treatments.

**Table 1** Modified CASP for included studies

No	First author (year)	1	2	3	4	5	6	7	8	9	10	11
1	Aghabarary (2016) <sup>29</sup>	1	1	0	0	1	1	0	1	1	1	1
2	Aghabarary (2017) <sup>30</sup>	1	1	0	0	1	1	0	1	1	1	1
3	Badger (2005) <sup>37</sup>	1	1	0	0	1	1	0	1	1	1	1
4	Bruce (2015) <sup>38</sup>	1	0.5	1	1	1	1	0	1	1	1	1
5	Choi (2022) <sup>34</sup>	1	1	1	1	1	1	1	1	1	1	1
6	Close (2019) <sup>24</sup>	1	1	0	0	1	1	0	1	1	1	1
7	Espinosa (2010) <sup>39</sup>	1	1	1	0	1	1	0	1	1	1	1
8	Heland (2006) <sup>25</sup>	1	1	0	1	1	1	0	1	1	1	1
9	Hsu (2018) <sup>35</sup>	1	1	1	0	1	1	0	1	1	1	1
10	Nikbakht Nasrabadi (2021) <sup>31</sup>	1	1	1	1	1	1	1	1	1	1	1
11	Pattison (2013) <sup>36</sup>	1	1	1	1	1	1	1	1	1	1	1
12	Vieira (2022) <sup>33</sup>	1	1	0	0	1	1	0	1	1	1	1
13	Voultzos (2021) <sup>28</sup>	1	1	0	0	1	1	1	1	1	1	1
14	Willmott (2016) <sup>26</sup>	1	1	0	0	1	1	0	1	1	1	1
15	Workman (2003) <sup>27</sup>	1	1	0	0	1	1	0	1	1	1	1
16	Yekefallah (2015) <sup>32</sup>	1	1	1	0	1	1	0	1	1	1	1

The following 11 criteria were included: (1) Was there a clear statement of the aims of the research?; (2) Is a qualitative methodology appropriate?; (3) Was the research design appropriate to address the aims of the research?; (4) Does the study's theoretical underpinnings (eg, ontological and epistemological assumptions; guiding theoretical framework(s)) clear, consistent and conceptually coherent?; (5) Was the recruitment strategy appropriate to the aims of the research?; (6) Were the data collected in a way that addressed the research issue?; (7) Has the relationship between the researcher and participants been adequately considered?; (8) Have ethical issues been taken into consideration?; (9) Was the data analysis sufficiently rigorous?; (10) Is there a clear statement of findings?; (11) How valuable is the research? (1: yes, 0: no).

CASP, critical appraisal skills programme.

### Data synthesis

The thematic synthesis of qualitative research was chosen for the data analysis of this meta-synthesis.<sup>18</sup> Following the first step of thematic synthesis, extracted qualitative data were coded line by line. The line-by-line coding enabled translation of the key concepts. The codes were structured by hierarchy and resulted in descriptive themes. Subsequently, analytical themes were developed by integrating and weaving in coherence of the descriptive themes.<sup>23</sup> The thematic synthesis was performed by the first author confirmed by other authors of this study.

### Rigour, trustworthiness and reflexivity

This meta-synthesis focused on nurses' and physicians' experiences with continuing life-sustaining treatment in critical care settings. Therefore, nurse and physician quotations in the included studies were analysed and the results of the analysis of the included studies were excluded. The entire process of review was transparently shared among authors by using an encrypted cloud folder at the affiliated university of all authors following the ENTREQ. The authors are experienced nursing researchers with expertise in end-of-life or critical care research. As an experienced qualitative researcher, the first author systematically guided the review process. The second author played a reviewer role in screening and evaluating studies independently.

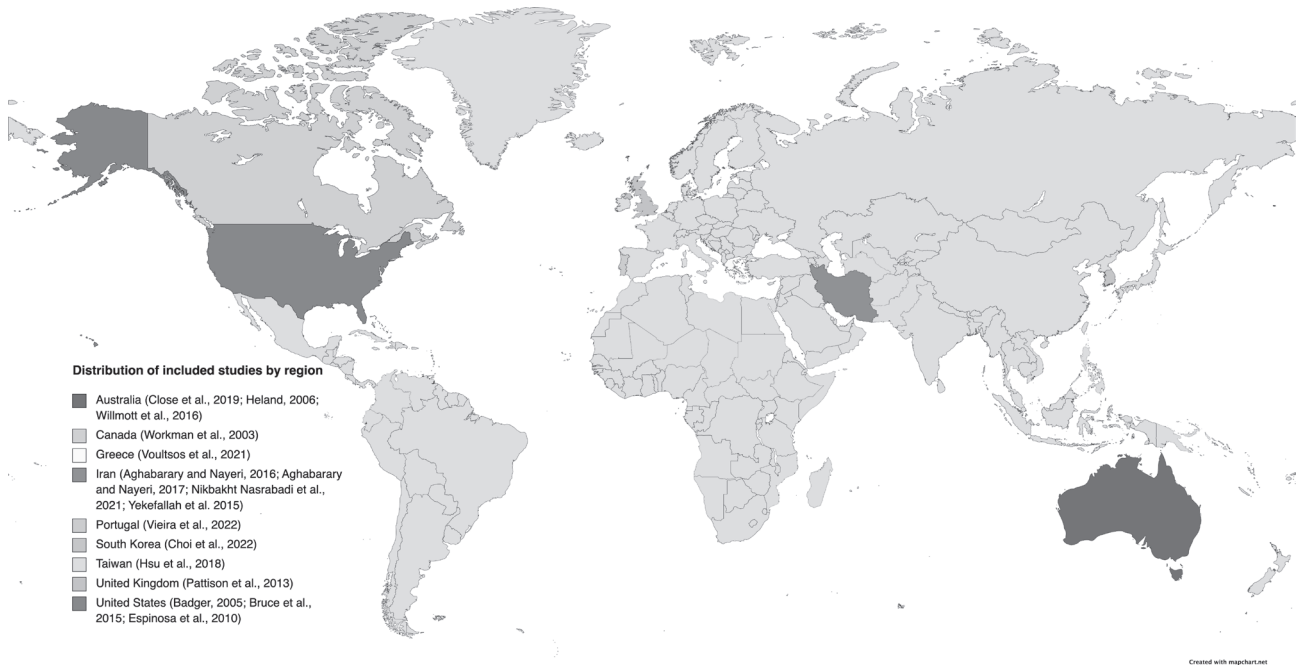
### FINDINGS

The regions where the included studies were conducted were Australia,<sup>24–26</sup> Canada,<sup>27</sup> Greece,<sup>28</sup> Iran,<sup>29–32</sup> Portugal,<sup>33</sup> South Korea,<sup>34</sup> Taiwan,<sup>35</sup> the UK<sup>36</sup> and the USA<sup>37–39</sup> (see figure 2). The regions of included studies were distributed to various continents: three in Oceania, four in the Americas, three in Europe, four in the Middle East and two in East Asia. The year of publication of the included studies ranged from 2003 to 2022, and 11 out of 16 studies were published after 2015. In terms of the methodologies of included studies, eight studies specified the qualitative methodologies, five studies used phenomenology, one used a case study, one used a focus group and one used focused ethnography. On the other hand, the eight included studies did not mention a specific qualitative methodology. A summary of the included studies is presented in online supplemental material II.

From the 16 included studies, 141 quotes were extracted and analysed. Following the thematic synthesis, four themes were developed: (1) contextual and cultural diversity, (2) perceptions of futile treatment, (3) professional roles and responsibilities, and (4) emotional distress (see figure 3).

### Contextual and cultural diversity

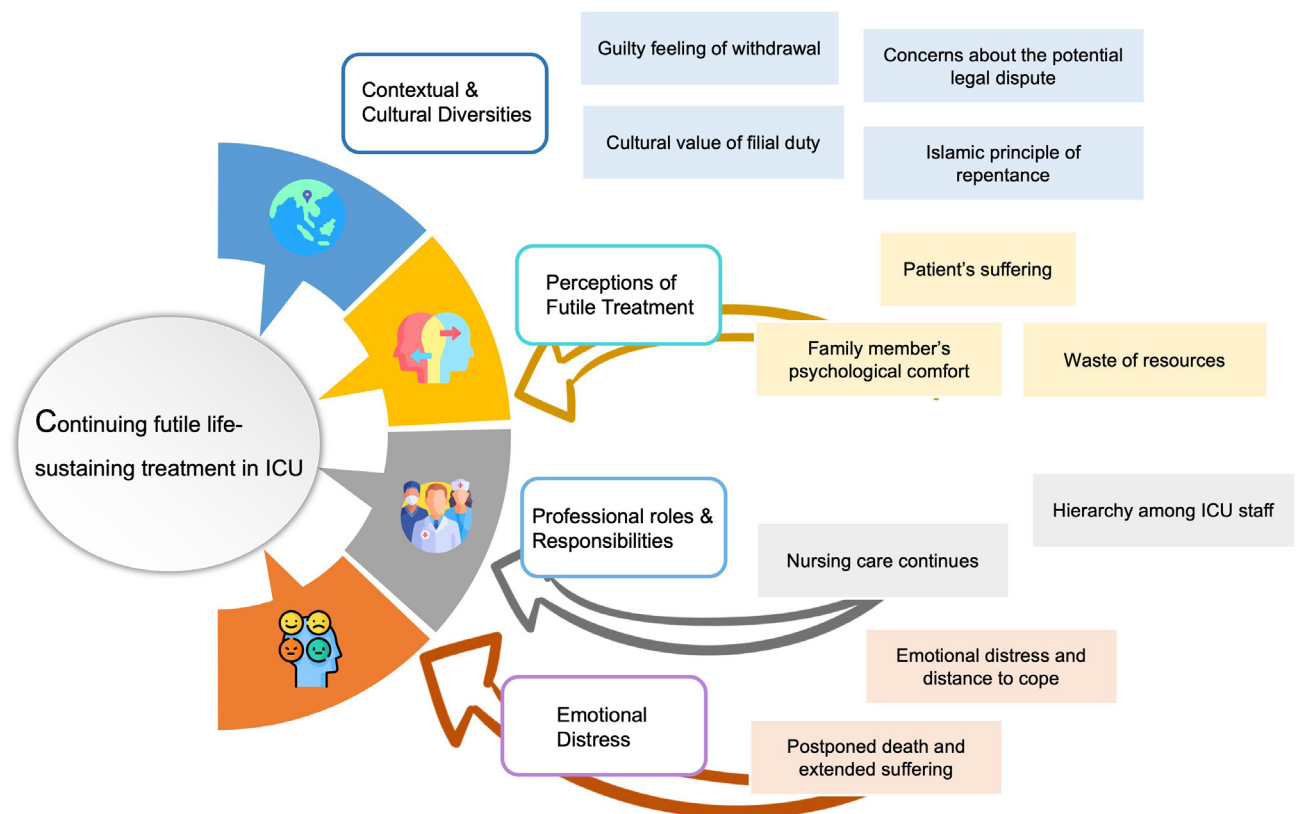
The first theme, 'contextual and cultural diversity', regards the cultural and contextual reasons for continuing futile life-sustaining treatment in intensive care units. Intensive care unit nurses and physicians



**Figure 2** Distribution of included studies by region.

experienced religious and cultural reasons to continue futile life-sustaining treatments, since the decisions are not made solely by medical staff but are discussed with family members. The experiences share and construct the meaning of providing futile life-sustaining treatment with family members under the same contexts.

The consideration of futile life-sustaining treatment is the declaration of the patient’s imminent death, which can be sudden and difficult for family members to accept. Accordingly, discontinuing futile life-sustaining treatment, such as withdrawing life-sustaining treatment, caused guilty feelings among



**Figure 3** Results of thematic synthesis. ICU, intensive care unit.

family members due to its consequence, the patient's death.

Signing the consent form to withdraw treatment may make one feel very guilty.<sup>34</sup>

One of the explanations for guilty feelings arises from the cultural value of filial duty. While providing intensive care and treatment is considered the family member's responsibility for the patient, especially when the patient is the parent of family members, continuing futile life-sustaining treatment is like performing the filial duty for the patient.

When family members frame the WWLT (withholding or withdrawing life-sustaining treatment) consent as negligence of the filial duty, they often continue life-sustaining treatment.<sup>34</sup>

Although the cultural value of filial duty tried to be performed for the patient by providing futile life-sustaining treatment, the patient's suffering at the end of life was not considered in the context. On the other hand, in an Islamic context, a reason to continue futile life-sustaining treatment infused a religious meaning to the patient's suffering. The patient's suffering under the continuation of futile life-sustaining treatment was justified as repentance of the patient's sins.

According to Islamic principles and our religious beliefs, we need to sustain patients' lives as much as we can. Probably, sustaining a patient's life gives him/her the opportunity of showing repentance. Suffering disease related torments may help patients wash away and repent their sins.<sup>30</sup>

Under some contexts where the patient and family members are considered customers of healthcare services, intensive care unit nurses and physicians are concerned with futile life-sustaining treatments due to a potential legal dispute. Despite the awareness of futile life-sustaining treatment, family members' requests for continuing treatment could not be declined for this reason. The medical consideration of futile life-sustaining treatment implies the patient's dying and death. When the family members cannot face the reality of the patient's dying and death, futile life-sustaining treatment is continued following their decision.

The patient signed the DNR (do-not-resuscitate), and then both of them [the wife and a witness] had also signed it. The patient started breathing harder, and his wife then said yes [to intubate] the patient was back on endo. I think nowadays everyone is afraid of being sued. If you refuse [to perform intubation] you may be sued.<sup>35</sup>

The family actually threatened the physician who was caring for this patient. They said that they would charge him with murder should the patient deteriorate. And that if we didn't resuscitate the patient, they would charge us with murder. Very unpleasant, incredible tension of course. Finally I

said the 'D' word [dying]. And it was like, 'Oh? No one told us that before.'<sup>27</sup>

### Perceptions of futile treatment

The second theme, perceptions of futile treatment, showed how differently intensive care unit nurses and physicians perceived futile life-sustaining treatment. The consequences and impact of futile life-sustaining treatments on the patients and family members were explored from the experiences of intensive care unit nurses and physicians. Additionally, their personal values and beliefs regarding futile life-sustaining treatment were reflected. Apart from the family members, intensive care unit nurses and physicians construct their own perceptions towards futile treatment since they stay next to the patient and witness a number of cases of dying and death. Family members are also portrayed from the perspective of intensive care unit nurses and physicians in the process of continuing futile life-sustaining treatment.

First, a perception was shared by intensive care unit nurses and physicians that continuation of futile life-sustaining treatment does not benefit the patient at the end of life. Instead, continuing futile life-sustaining treatment causes the patient to suffer from pain. Since the futile life-sustaining treatment cannot be withdrawn without family members' consent, intensive care unit nurses' and physicians' perceptions of continuation were not a shared understanding with family members.

I feel like I am torturing the patient, keeping whomever alive beyond their time not for the patient or what the patient would want, but for other people because the family can't let go.<sup>37</sup> Sometimes, we feel the patients are really suffering and when they die, we can see peace and calmness in their faces. When we could avoid invasive procedures, why shouldn't we let the patient die? We know the patient is really suffering.<sup>32</sup>

The second is the impact of continuing futile life-sustaining treatment on family members. Intensive care unit nurses and physicians perceived that continuing futile life-sustaining treatment contributes to family members' psychological comfort. Although the comfort of avoiding the patient's death is temporary, family members are given some time, which was comprehended by intensive care unit nurses and physicians as a psychological benefit. Also, continuing intensive care and treatment implies the remaining chance for family members even though the chance is very small.

Let's see it in a holistic way...providing futile medical care may be psychologically beneficial, even if it may not be biologically beneficial...nobody knows how much grief and death cost in our inner world.<sup>28</sup> I knew it was futile, that it was not over there. I do not, I didn't make my brother's comfort worse, and

I know it. However, above all, I gave comfort to the family.<sup>33</sup>

Nonetheless, the patient's death is inevitable under futile life-sustaining treatment. Accordingly, temporary comfort for family members by prolonging the patient's life cannot support family members when the time has come that they should face the reality.

I think it's one of the hardest things I have ever seen in my entire life. It [prolonged treatment] causes a lot of pain for the families. You know where they are coming from, [in wanting treatment continued] you feel very strongly for them. It would be so nice to stop because we know how it is going to end. [With the death of the patient].<sup>27</sup>

Last, continuing futile life-sustaining treatment was perceived as a waste of resources. Intensive care unit nurses and physicians agreed that futile life-sustaining treatment consumes a large amount of healthcare resources. When the consequence of futile life-sustaining treatment is visible, continuing the current care and treatment would not be effective.

More and more people in their intensive care unit use and abuse complementary exams that are exclusively diagnostic, increasingly differentiated, and the futility of these diagnostic means of diagnosis is something that afflicts me.<sup>33</sup> So much money is wasted because of what we do for futile patients although we know they would not survive. So many tests are written for them. It really hurts when all this work and money are wasted... since sometimes their death is delayed because of what we do.<sup>32</sup>

#### Professional roles and responsibilities

Professional roles and responsibilities are intensive care unit nurses' and physicians' perceptions about their own or each other's roles and responsibilities. Intensive care unit nurses and physicians interacted in the process, from the consideration of futile life-sustaining treatment to the decision of continuation. Although the roles and responsibilities of nurses and physicians were perceived according to their professional qualifications, intensive care unit nurses and physicians noticed power dynamics and hierarchies by experiencing discrepancies. Also, nurses distinguished futile life-sustaining treatment from nursing care to provide end-of-life support to the dying patient and their family members.

The decision of current treatment whether futile or not is a medical consideration of physicians. The decision is not simple but difficult due to the complexity of the intensive care unit patient's critical illnesses. Making the decision regarding futile life-sustaining treatment is perceived as a difficulty by intensive care unit nurses and physicians.

It's not [up to] us to take the decision. The doctor takes the decision to stop or to continue, with the

family, sure, but the nurses are only here to give care and accept.<sup>31</sup>

Judging about whether a patient is terminal or not is too difficult. There is always a probability of committing error [because] human science and ability are not perfect.<sup>30</sup>

Although the decision-making of futile life-sustaining treatment is an interactive process between nurses and physicians, the roles and responsibilities are not equal. Nurses were invited to participate in the discussion with family members about the current treatment, but their opinions were not treated as equally as physicians'. This implies that the relationship between nurses and physicians was hierarchical in the decision-making process of futile life-sustaining treatment.

Yes, I do, and I don't think it's token listening. I think that a contribution is more likely to be regarded and considered if you have the ability to input into a discussion in a calm, rational manner, where you're basing your discussion on logical argument, facts and evidence.<sup>25</sup>

We [nurses] do not have enough authority. When encountering conflicts (with physicians' decisions), we can only comply. I can only do my best to inform the families about what's best for the patient. If the physician orders a vasopressor, even though we [the nurse] know that this treatment is futile, are we allowed to disobey that physician's order?<sup>35</sup>

Also, nurses' and physicians' different perceptions of patients dying and death influenced their practices. The patient's imminent death could be denied or neglected by intensive care unit physicians and family members. However, intensive care unit nurses are devoted to their roles and responsibilities of providing care to the dying patients under futile life-sustaining treatment. They tried to ensure the patient's comfortable and dignified dying and death.

It is neither legal nor ethical to abandon a terminally-ill patient. We don't know the final outcome. We just need to perform our legal and professional responsibilities.<sup>30</sup>

If we admit that death is a part of our lives, then we should try to create a favorable condition for its happening. Somebody may think that care is not beneficial for a terminally-ill patient who is approaching death. However, [I believe that] care can help such patient have a peaceful and dignified death. If we have such an attitude to care, we will never consider care as futile and will find all care-related activities as effective.<sup>29</sup>

#### Emotional distress

The last theme, emotional distress, is the emotional response of intensive care unit nurses and physicians while experiencing the continuation of futile life-sustaining treatment. The patient's death, a consequence of futile life-sustaining treatment, is not an easy experience, although intensive care unit nurses and

physicians experience it very often due to the highest mortality in intensive care units. Providing treatment and care that is considered futile to a dying patient is different from the care and treatment given for a patient's recovery.

Ineffective care means you are doing things that do not make the patient any better, the patient is unresponsive to the things you do...; it is an awful feeling. You are somehow sure he is dying and no one can do a thing.<sup>32</sup>

The patient was slowly losing blood pressure and was developing necrosis, gangrene of the extremities, upper and lower. The death took at least a good 3 weeks. And I was thinking I could never do this to my parents, to any of my family members, to any human being. Nurses would not want to care for this patient, they would leave, literally, crying about how bad this was.<sup>27</sup>

The futile life-sustaining treatment not only is ineffective but also extends the patient's suffering by postponing the patient's death. Intensive care unit nurses and physicians had to continue the treatment and care following the decision to continue. The continuation was perceived as the most difficult by them.

The hardest thing to do is keep intervening with a patient who is clearly dying so as to prevent a natural death.<sup>37</sup>

What bothers me most are the excessive diagnostic aids that we provide to patients when they don't need them for anything.<sup>33</sup>

Intensive care unit nurses and physicians were emotionally affected by providing futile life-sustaining treatment. Providing futile life-sustaining treatment is considered a waste of resources. They expressed negative emotions such as anger,<sup>28</sup> depression<sup>29</sup> and soul-destroying sentiments.<sup>25 28</sup> To deal with emotional distress, some nurses and physicians have distanced themselves from the patient and family members.

You end up trying to limit your exposure to these patients that have families, because—After [X] days, you just run out of things to say. Also, it's depressing and discouraging when you know the outcome is going to be the same as if you were watching *The Green Mile*. You just have to limit yourself [and] step away, so you can't really be human.<sup>38</sup> It's really hard to ever; look at the patient half the time, and sometimes you even have to take a break from that patient, because you just can't continue, it's like a form of torture really.<sup>25</sup>

## DISCUSSION

This study explored intensive care unit nurses' and physicians' experiences with providing futile life-sustaining treatment from the 16 systematically identified, reviewed and synthesised qualitative studies. While the previous review studies focused on experiences of withdrawal of life-sustaining treatment based on the ideal decision of futile life-sustaining

treatment,<sup>15 17</sup> this study explored the experiences of ongoing futile life-sustaining treatment. Accordingly, different dimensions of nurses' and physicians' experiences were developed into four themes. The first theme identified contextual and cultural reasons to continue futile life-sustaining treatment in the intensive care unit. The second theme illustrated the nurses' and physicians' personal values and beliefs about futile life-sustaining treatment. The third theme focused on the interactive dynamics of roles and responsibilities of intensive care unit nurses and physicians. The last theme regards intensive care unit nurses' and physicians' emotional distress and coping with providing futile life-sustaining treatment.

Although futile life-sustaining treatment is a positive consideration based on the patient's critical illness, either continuation or withdrawal is not a decision made solely by medical consideration but a decision discussed between medical staff and family members in a socially constructed context.<sup>40</sup> Therefore, taken-for-granted assumptions in a society such as culture and belief will certainly be reflected in the decision-making process about futile life-sustaining treatment. The cultural impact on decisions about futile life-sustaining treatment was supported by the variety in the prevalence of withdrawing futile life-sustaining treatment following cultural homogeneity.<sup>15</sup>

The findings of this study identified guilty feelings since the consequence of withdrawing futile life-sustaining treatment decisions provoked the patient's prompt death. Although the patient's death under futile life-sustaining treatment was caused by the patient's critical illnesses, the acceleration of the patient's death by the decision to withdraw made family members feel guilty. Likewise, the cultural value of filial duty influences the continuation of a futile life-sustaining treatment since the family members cannot consent to the withdrawal. Since the intensive care and treatment were initiated for the patient's recovery, care and treatment were considered a duty especially when the family members were the descendants of the patients. The filial duty is particularly strong under the Confucian cultural background in Northeast Asia.<sup>41</sup> Another key distinct culture was Islamic principles. Although the treatment is futile, Islamic principles may not support withdrawal following the Islamic belief of a sacred life.<sup>42 43</sup>

However, when the decision to continue futile life-sustaining treatment is made by family members, the decision following the family member's perceptions of cultural and religious context may not accord with the patient's comfortable and dignified dying and death.<sup>44</sup> The continuation of futile life-sustaining treatment not only postpones the patient's death but also extends their suffering. This is linked to the second theme, perceptions of futile treatment by nurses and physicians. Family members may perceive futile life-sustaining treatment as their psychological comfort, although



the comfort is temporary and extends the patient's suffering. For example, a family member's denial or non-acceptance of the patient's dying can also affect the decision to continue futile life-sustaining treatment.<sup>45 46</sup> Additionally, family members are emotionally vulnerable as family members of a critically ill intensive care unit patient.<sup>7</sup> Therefore, the patient's quality of end of life should be distinguished from the family members' wishes in order to avoid collision.<sup>43 44</sup>

Last, the futility of care and treatment caused emotional responses in nurses and physicians, which accord with previous quantitative studies reporting burnout and moral distress due to the patient's dying and death.<sup>8 10</sup> However, a unique finding of this meta-synthesis is the doubt about their professions which resulted in 'thoughts of leaving their job'. The intensive care setting provides highly developed care and treatment to critically ill patients. When curative goals cannot be achieved, intensive care unit nurses and physicians immediately move to the palliative goal to achieve a dignified death for the patient.<sup>47 48</sup> However, continuing futile life-sustaining treatment hindered both goals of care, either curative or palliative. Nonetheless, as presented in the third theme, professional roles and responsibilities, nurses continued to seek and perform their roles and responsibilities for dying patients under futile life-sustaining treatment and their family members.

### Limitations

Synthesising qualitative studies may be challenged by a collision of research paradigms. Although qualitative studies pursue in-depth understanding by rich description, review methodology pursues a quantification for generalisation under positivism.<sup>49</sup> Additionally, since the data were extracted from published quotes from the included studies, not the original qualitative data, the findings of meta-synthesis research might achieve a thin abstraction.<sup>50</sup> To overcome the potential methodological limitation, this study synthesised extracted quotes without the researcher's analysis of the findings of the included studies. In addition, this study focused on reinterpretation, comparisons between contexts and translation of different studies.

From the characteristics of the included studies, the inclusion of studies written only in the English language may limit the context of the studies. However, due to the language hegemony of the English language, the included studies achieved diversity across the different continents. Nonetheless, no studies met the inclusion criteria conducted in Africa, so the context could not be reflected in this synthesis. Additionally, this meta-synthesis did not have a year limit in the time frame; therefore, the years the included studies were conducted ranged from 2003 to 2022. Although the majority of studies were conducted after 2020, some studies were conducted in early 2000. Among the countries that included one study per country,<sup>28 33–36</sup>

only one study conducted in 2003 in Canada was included.<sup>27</sup> Therefore, the up-to-date contextual understanding from the context may not be fully reflected in this meta-synthesis.

### CONCLUSION

This study synthesised qualitative data reflecting the nurses' and physicians' experiences with contexts, individual perceptions, professional roles and responsibilities and emotional responses associated with continued futile life-sustaining treatment in the intensive care unit. The findings of this study contribute to valuable insights into the continuation of such treatments, shedding light on their implications from a broader societal perspective down to individual perceptions. Cultural and religious reasons induced the continuation of futile life-sustaining treatment. From the individual level, family members' temporary comfort while continuing futile life-sustaining treatment also influences the decision to continue. Despite the challenges presented by the continuation of futile life-sustaining treatment, nurses demonstrated awareness of their roles and responsibilities in providing care to both the patient and their family members. However, achieving a comfortable death for the patient remained difficult under these circumstances.

This study informs future studies to explore experiences of futile life-sustaining treatment in intensive care units under various contexts, since this study has limitations of lacking contexts such as in African countries and included outdated studies in certain contexts.

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