Parental Perceptions of Forgoing Artificial Nutrition and Hydration During End-of-Life Care

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KEY WORDS: artificial nutrition and hydration, death, end of life, palliative care

ABBREVIATIONS
ANH—artificial nutrition and hydration
EOL—end of life
FANH—forgo(ing) artificial nutrition and hydration
QoL—quality of life

Drs Rapoport and Steele conceptualized and designed the study, analyzed and interpreted the data, drafted the initial manuscript, and approved the final manuscript as submitted; Ms Shaheed acquired and interpreted the data, drafted the initial manuscript, and approved the final manuscript as submitted; and Dr Newman and Ms Rugg analyzed data, revised the manuscript critically for important intellectual information, and approved the final manuscript as submitted.

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WHAT’S KNOWN ON THIS SUBJECT: Forgoing artificial nutrition and hydration in children at the end of life is an acceptable practice under some circumstances. However, there is a paucity of pediatric evidence to guide health care providers’ and parents’ decision-making around this practice.

WHAT THIS STUDY ADDS: This study describes experiences of parents whose children died after forgoing artificial nutrition and hydration. All parents were satisfied with their decision and believed their child’s death was peaceful. This study adds to the limited evidence to guide clinical practice.

BACKGROUND AND OBJECTIVE: Forgoing artificial nutrition and hydration (FANH) in children at the end of life (EOL) is a medically, legally, and ethically acceptable practice under specific circumstances. However, most of the evidence on FANH involves dying adults. There is a paucity of pediatric evidence to guide health care providers’ and parents’ decision-making around this practice. Objectives were (1) to explore the experiences of bereaved parents when a decision had been made to FANH during EOL care for their child and (2) to describe the perceived quality of death in these children, as reported by their parents.

METHODS: This was a qualitative study using in-depth interviews with parents whose children died after a decision to FANH. Parental perceptions about the experience and their child’s quality of death were explored. Interviews were audiotaped and transcribed, then data were analyzed by using interpretive description methodology.

RESULTS: All parents were satisfied with their decision to FANH and believed that their child’s death was generally peaceful and comfortable. The child’s perceived poor quality of life was central to the decision to FANH, with feeding intolerance often contributing to this perception. Despite overall satisfaction, all parents had doubts and questions about the decision and benefited from ongoing assurances from the clinical team.

CONCLUSIONS: FANH in children at the EOL is an acceptable form of palliation for some parents and may contribute to a death that is perceived to be peaceful and comfortable. In situations in which FANH may be a reasonable possibility, physicians should be prepared to introduce the option. Pediatrics 2013;131:861–869
Artificial nutrition and hydration (ANH) is a life-sustaining treatment provided enterally (eg, nasogastric, gastric tubes) or parenterally that may be indicated when children cannot meet their dietary requirements or when it becomes unsafe to do so.\textsuperscript{1.2} Although ANH may support biological existence and increase weight, there is no evidence that it improves survival or quality of life (QoL) in dying children or adults.\textsuperscript{3–6} ANH carries significant risks and potential complications.\textsuperscript{7–11} Providing ANH at the end of life (EOL) is a medical intervention that may be withheld or withdrawn depending on the balance of risks and benefits.\textsuperscript{12–14} Forgoing ANH (FANH) may be considered in the presence of neurologic devastation, irreversible total intestinal failure, and proximate death from any pathologic cause.\textsuperscript{11.15} Although denying oral sustenance to children who want to eat or drink (and can do so safely) is ethically and legally wrong, when the potential or actual burdens are believed to outweigh the benefits, the option to FANH, either completely or by providing small amounts of “comfort feedings” insufficient to sustain life, may be a legitimate method of palliation.\textsuperscript{12–14,16–18}

The only study to examine the phenomenon of FANH in children revealed it to be a “justifiable and humane practice in the NICU.”\textsuperscript{19} Literature on adult patients suggests that prolonged fasting may effectively reduce symptoms commonly experienced at the EOL.\textsuperscript{20–23} Physicians of patients who voluntarily refused food and fluid describe a peaceful death\textsuperscript{24,25}; hospice nurses consistently portray the experience as free of pain and suffering, peaceful, and overall of good quality.\textsuperscript{26} Limited evidence supports that family members perceive the quality of death in relatives after FANH to be comfortable.\textsuperscript{21}

There is a paucity of pediatric evidence to guide health care providers’ and parents’ decision-making around FANH in children.\textsuperscript{27} Therefore, the objectives of this qualitative study were as follows: (1) to explore the experiences of bereaved parents when a decision had been made to FANH during EOL care for their child and (2) to describe the perceived quality of death in these children, as reported by their parents.

**METHODS**

The qualitative methodology of interpretive description\textsuperscript{28} was used to explore the research questions. In contrast to qualitative methods borrowed from the social sciences (eg, grounded theory, phenomenology), interpretive description is a form of inquiry specifically for applied health disciplines that aims to bridge the gap between practice and theory; it produces meaningful evidence to enhance clinical practice.\textsuperscript{29} Interpretive description is typically conducted on sample sizes between 5 and 30,\textsuperscript{26} which allows for the development of a deep, rich understanding of the phenomenon.\textsuperscript{30–32}

**Participant Eligibility Criteria**

Purposely sampled bereaved parents whose child died after FANH were identified by members of the Hospital for Sick Children (SickKids) Paediatric Advanced Care Team. Recently bereaved parents (<6 months) were excluded as advocated elsewhere.\textsuperscript{33} The time since the child’s death was not restricted because the intense nature and uniqueness of the experience help maintain the accuracy of recall.\textsuperscript{34} Parents <18 years of age, who lived >125 miles from the hospital, or who were not fluent in English were excluded.

**Procedure**

An introductory letter signed by the child’s primary provider at SickKids and the principal investigator (A.R.) was mailed to identified parents. Those who wished to opt out of the study could return a supplied postcard or e-mail the research team. Two weeks after the anticipated receipt of the letter, parents who did not opt out were contacted by telephone. This procedure has been advocated by bereaved parents.\textsuperscript{29,35} The study protocol was approved by the SickKids institutional review board.

**Data Collection**

All but 1 interview took place in the family home. After written consent was received, demographic information was collected. A semistructured guide was used and modified during the study because data analysis informed the focus for subsequent interviews.\textsuperscript{26} Each interview lasted ~1 to 1.5 hours. Parents were interviewed separately to facilitate better understanding of the individual experience.\textsuperscript{36} At the end of the interview, questions were asked about study participation and contact information for local grief/bereavement agencies and a SickKids social worker was provided; no parents made use of the latter resource.

**Data Analysis**

Interviews were voice-recorded and later transcribed verbatim, checked for accuracy, and stripped of any identifying information. The qualitative data management software NVivo 9 (QSR International, Australia) was used to facilitate constant, comparative analysis. After immersion in the data by reading the first 3 transcripts on their own, investigators initially worked together to compare their observations and to design preliminary coding categories.\textsuperscript{28,37} Individual interviews were analyzed and codes were added and/or modified in an iterative process. The trustworthiness of the study was established through careful data collection and analysis procedures that ensured credibility and authenticity.\textsuperscript{28,38} The decision trail was recorded throughout the study to permit examination of
TABLE 1 Characteristics of Study Sample

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Count</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Parental role</td>
<td></td>
<td>Mothers = 6, Fathers = 5</td>
</tr>
<tr>
<td>Parents’ educational level</td>
<td></td>
<td>High school = 2, Apprenticeship program = 1, College = 2, University = 6</td>
</tr>
<tr>
<td>Parents’ religious affiliation</td>
<td></td>
<td>Catholic = 6, Christian = 1, Jewish = 1, Converting to Judaism = 1, No affiliation = 2</td>
</tr>
<tr>
<td>Parents’ age, median (range)</td>
<td></td>
<td>Mothers = 35 (31–51) years, Fathers = 40 (33–55) years</td>
</tr>
<tr>
<td>Number of healthy siblings at time of FANH</td>
<td></td>
<td>Siblings = 0 in 1 family, 1 in each of 5 families</td>
</tr>
<tr>
<td>Child’s diagnosis</td>
<td></td>
<td>7 with genetic or suspected genetic conditions</td>
</tr>
<tr>
<td>Child’s age at diagnosis</td>
<td></td>
<td>In utero = 1, Before fourth week of life = 3, Between 1 and 4 years = 3</td>
</tr>
<tr>
<td>Static versus progressive underlying condition</td>
<td></td>
<td>Static = 4, Progressive = 3 (2 from same family)</td>
</tr>
<tr>
<td>Form of ANH in place at the time of decision-making</td>
<td></td>
<td>None = 1, NG tube = 3, G-tube = 3, TPN = 1</td>
</tr>
<tr>
<td>Child’s age at death</td>
<td></td>
<td>1–3 months = 2, 4–6 months = 2, 14–15 years = 3, ≤2 weeks = 5, &gt;2 weeks = 2</td>
</tr>
<tr>
<td>Length of time between FANH and death</td>
<td></td>
<td>Range = 1.5 to 5 y</td>
</tr>
<tr>
<td>Length of time between child’s death and interview</td>
<td></td>
<td>Hospital = 1</td>
</tr>
<tr>
<td>Location of child’s death</td>
<td></td>
<td>Home = 5 (2 from same family)</td>
</tr>
</tbody>
</table>

N = 11 parents from 6 families; 7 children. G-tube, gastrostomy; NG, nasogastric; TPN, total parenteral nutrition.

a Specific information not provided to maintain anonymity.
b No firm diagnosis for 1 child; underlying genetic condition suspected immediately at birth.
c Static conditions were accompanied by progressive comorbidities (eg, seizures, feeding intolerance).
d Some children had ≥1 form of ANH in place at the time of decision-making.
e Both of these children were from the same family; second child never received any form of ANH.

**RESULTS**

**Sample**

Twenty-two potential participants (from 11 families) met eligibility criteria. Five parents (3 families) were not interested in being interviewed; 6 parents (3 families) could not be reached. A total of 11 parents from 6 different families (5 fathers, 6 mothers) participated in the study. There were 2 children who died after FANH in 1 family (total of 7 children). In all but 1 family, both parents were interviewed; all were currently married (Table 1).

**Parental Experiences of FANH During EOL Care for Their Child**

Parents were satisfied with their experience of FANH, even though the affective, cognitive, and practical impacts were substantial. They all believed that the final decision regarding FANH should rest with them, as parents, yet at the same time they desired the input and support of the health care team.

**Introduction of FANH to Parents**

The actual setting for discussing the option of FANH was unimportant to parents. What mattered most was the timing of the discussion, who introduced the option, and how it was presented. Parents not only had to be open to having this discussion, they needed to be ready; readiness was always predicated on viewing their child’s QoL as poor. At the time of introduction, all parents considered their child to have a poor QoL and most, but not all, recognized that their child was dying. Parents needed to be assured that FANH was medically and ethically legitimate, and they agreed that a physician was the ideal person to provide this assurance and to introduce FANH (Table 2).

**Decision-making Process**

All parents reported that being “on the same page” with their spouse was crucial during decision-making. Although some acknowledged the personal challenges they would face if life-sustaining treatments were continued, all parents were more concerned with the consequences for their spouse, other children (where present), and the family as a whole. Parents ultimately concluded that FANH represented the best of all options for their child; in some instances, it was viewed as “the only thing that made any sense” (Jake). This conclusion resulted in paradoxical feelings because no parent had wanted their child to die (Table 3). The child’s perceived poor QoL emerged as the central factor behind the choice to FANH. Parents took into account the declines in their child’s health and the potential biases and disciplinary preconceptions so they would not unduly influence analysis.28 All authors met to discuss and finalize the study report.
realization that their child was not going to improve. They also considered their child's ability to interact meaningfully with their environment, in both the short- and long-term. Parents of chronically ill children noted their child's decreasing ability to enjoy things that had previously given them pleasure. They not only considered their child's past and present situation, all parents incorporated their child's anticipated QoL into their decision-making as well.

Pain and suffering contributed significantly to perceptions that a child's QoL was (or would be) poor and weighed heavily on decision-making. Parents identified pain and suffering at the time of decision-making in all but 1 child; the parents of that girl anticipated these symptoms because of their experience with her older brother. The severity and relentless nature of the pain and suffering permitted parents to consider an option, FANH, that would mean accepting their child's death.

Parents described various factors contributing to their child's suffering, such as seizures, breathing difficulties, and skin breakdown. However, the primacy of feeding difficulties was noted by all. Challenges included pain with feedings, bloating, leakage around tube sites, nausea, and vomiting. All parents perceived that continuing feedings was no longer a viable option: “by feeding him, we were, from what we could see, decreasing his quality of life” (Elizabeth). Even before discussing the option of FANH with the health care team, 1 mother had already felt compelled to withhold ANH for short periods: “I kind of even started to not feed him . . . I was sick with watching him. He was just so clearly uncomfortable” (Marilyn).

Parents found it helpful when professionals shared their past experiences with FANH as well as the evidence from the adult medical literature. Anticipatory guidance about what life might look like if ANH were continued (or initiated) helped them envision the impact of this life-sustaining treatment on their child and family. Parents were reassured to learn that death after FANH is indeed comfortable and that their child would not “starve to death.” Once the decision was made, parents continued to need reassurance and guidance from health care professionals as death approached.

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| Being open to the option of FANH was predicated on parents' perceptions of the child's poor QoL | “[I] really kept coming back to . . . what’s his quality of life going to be? And how hard . . . or how difficult that journey’s going to be? Is it gonna benefit him? Is he gonna be able to recover? And all these things were really negative . . . [The] decision to stop giving life support . . . it didn’t seem that was the hard part. The hard part was trying to analyze the quality of life.” (Mark)  
“[H]e went home on oxygen, he was seizing constantly. I just said, ’that’s it, I can’t take this anymore, I can’t watch him’. He would break out in this sweat for hours and he was given a lot of medication to control it and the only way that it could really be controlled was with morphine, so, what kind of a life was he having at that point?” (Marilyn)  
“It’s like he took words out of my mouth. Whatever I was thinking, and didn’t say, he said them. When he said that the whole quality of life, and it’s not what you want, when he spoke about those things, it was like he took my thoughts out of my mouth, and that’s when I realized, OK, he, he, he understands. And, I’m not a shy person, I say how I feel usually, and when I said them, he completely understood, and said what I’m feeling is right, and he validated what I was . . . my frustrations, and, that’s what made me feel like ‘OK, I think we’re gonna be OK.’” (Sarah)  
”[S]he had that casual and confident way about her that just makes you feel that she knows what she’s talking about. You have faith in her, and, it just makes it all work.” (Carly)  
“… (the palliative care team had) a sense that we were kind of getting frustrated causes things weren’t moving forward with him. He wasn’t improving, he was getting worse, and, so I think they very much got a sense that this is something that may have been appropriate for us in this situation and, and for (child), obviously too. I think they knew that we weren’t a huge fan of just continuing this. He couldn’t feed, he couldn’t do anything . . . and it was almost like we were getting railroaded into putting in the g tube and eventually he’s going to come home. I think that [palliative care physician] just had a good sense that this was the right thing to do in this situation.” (Richard)  
“…” she came out to the house, and we felt confident after she examined him. She said too that there’s always the option to take him to the hospital . . . we could determine if there’s something further that medically we could do to prolong his life. She gave us, I think, all the other options too . . . . We had the confidence that a medical person had looked at him and had examined him, that we were making the right decision.” (Elizabeth)  
”[Palliative physician] had [written] a paper, which he had given to myself and (husband) . . it just made me feel like ‘so it is, it’s OK to have these feelings and it’s OK to let him go that way. It’s not, it’s not wrong. That it’s OK to let him go’. . . . And, he was hesitant because I think most of them don’t want to say, right out, that this is what you should do. It’s more like ‘do you know that this is an option?’ . . . [he] gave us that report and it was OK to do this, it wasn’t illegal.” (Marilyn) |

Pseudonyms are used.
Parents found it difficult when professionals expressed divergent opinions about FANH or vacillated about the best way to proceed. Dissenting opinions led to parents feeling negatively judged; sometimes, however, negative judgment was more overt. A nurse caring for a child at home was surprised to learn that ANH would not be provided: “You can't just let her die” (Jake).

Not all parents felt judged by professionals, but all anticipated judgment from some family and friends stemming from religious or societal beliefs. Parents preempted being judged by not sharing the decision to FANH with these individuals. Even family and friends who were informed were not involved in the decision-making process; parents believed the decision was theirs alone to make.

Perceptions About Quality of Death and Overall Experience

Although most children died at home, the actual location of death was not of prime importance; what mattered most to parents was being able to spend the EOL period in the setting of their choice. Parents believed that their child's quality of death was good, especially when the dying process mirrored the earlier description provided by the palliative care team. However, some parents had worried about how death might unfold, and some were disturbed by their child's changes in appearance as death approached: “we just saw him starting to waste away and that was the hard part” (Jack). A few felt guilty about their decision, and most found it emotionally difficult to watch their child die. Yet, despite some mixed feelings, parents expressed no regrets about opting for FANH and all reported being satisfied with their decision (Table 4).

### TABLE 3 Parental Experiences of FANH During EOL Care for Their Child: Decision-Making Process

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<th>Theme</th>
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<tr>
<td>Parents were on the “same page”</td>
<td>“I don’t think we had any disagreements whatsoever, about following this option.” (Jack)</td>
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<td></td>
<td>“They did explain, sometimes couples have disagreements… But I think because we had [child] for 5 months, I think [husband] and I, you know, we knew we were on the same page.” (Lina)</td>
</tr>
<tr>
<td>Importance of the perceived QoL of family and sibling(s)</td>
<td>“[H]e’s never going to see, hear, walk…you feel you’re as bottom as you can go…how do you as an individual ultimately interpret that? Is that what you really want? Or is that good for, for [child]? How does that play out in your life plan and what does it mean for everybody else, including [daughter], you know? Our other daughter and ourselves as well, still as a family, how's all this gonna work if you go down ‘route A’ as opposed to ‘route B’?” (Mark)</td>
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<td>“I feel bad because, I think it's a weakness maybe in myself, but I just don’t think I could raise a child that is handicapped to that degree. I have so much admiration for people who, who do that, which really I didn't have before. So thinking of the quality of life for my family, yeah, that was a big consideration…” (Richard)</td>
</tr>
<tr>
<td>Centrality of child’s perceived QoL on deciding to FANH</td>
<td>“[Our son] passed away before [our daughter] needed a g-tube. We had gone through that experience [a g-tube] with [son] and how that extended his life, and how miserable and how little quality of life he had in that period of time… We decided at that point that we would not go the same route for [daughter]. After we saw what [son] went through it was real simple. I will not do that to another child; I would not do that to anybody that had the same kind of a diagnosis… There was not a great quality of life anymore. With [son], there was still quality of life—he was still walking and although he wasn’t conversing, you got eye contact—when we did the g-tube. But when [daughter] stopped eating…her quality of life wasn’t good… Our love for them was to let them go.” (Jake, parent of a son who died after withdrawing ANH followed by a daughter who died after withholding ANH)</td>
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<td></td>
<td>“There’s a picture of him, he’s in his wheelchair, he’s flopped forward like this, and there he hangs. He was like that day in and day out. [crying a little] He couldn’t sleep at night, you know? He just, he was telling us, we knew…[A]nd when you did feed him, he would become more agitated; he would squirm, wiggle, probably GI distress now that I look back.” (Carly)</td>
</tr>
<tr>
<td>Importance of a consistent message from professionals</td>
<td>“I think what made it hard…was this teeter/totter opinion…am I really making the right choice then?…Because I think if everybody said ‘this is what you do’, it’s easier to accept… I think it’s best that the health care people get together, come to an agreement first, and then present it to the family” (Lina)</td>
</tr>
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<td></td>
<td>“I thought that a lot of people would think it was disgusting and horrible and murderous if we ever said that we were going to take away the food. So I never discussed it with anyone outside of [husband] and our doctors and [friend] who’s a doctor, because I just felt that people would think that it was, you know, paramount to murder.” (Jessica)</td>
</tr>
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</table>
| Concerns about being judged | “…who else is going to judge us? Whether it’s God, other family, other family, other people, people you work with, legally, the courts, media…the court of public opinion… I still wouldn’t mention it at the time or, really even now. There’s very few people that know what happened… There’s some very opinionated people out there that haven’t been through this situation and for whatever reason they feel that this wouldn’t be something that’s acceptable. And, I mean, those are people that we know, like there’s no way that we could breach this topic.” (Richard) 

Pseudonyms are used.
Parents reported that death after FANH was not associated with added suffering. Nonetheless, every parent chose to give their child some form of “comfort feeding.” Although some were unsure how FANH affected their child’s comfort, others noted obvious improvements and believed death was peaceful. Some parents shared that their child increased comfort after FANH led them to reflect on their decision to initiate ANH: “if we’d have known prior what we know now” (Jake). Indeed, based on their experience with their son, Jake and his wife chose not to start ANH in their younger daughter, who died of the same progressive condition.

**Study Participation Experience**

All parents were happy that they participated in this study, despite the fact that, at times, it was emotionally difficult to talk about the issue (Table 5).

**DISCUSSION**

To the best of our knowledge, this is the first study to explore parental perceptions of FANH in children at the EOL by using in-person interviews. Parents were satisfied with their decision to FANH and generally believed that their child’s death was peaceful and comfortable. These findings are largely consistent with the adult medical literature and what is implicit in a recent quantitative study involving infants in the NICU.19

Many of the parents in this study believed that their child’s comfort increased after FANH, largely as a result of noticeable improvements in bloating, vomiting, or other signs of feeding intolerance. Yet, comfort may be associated with FANH even in the absence of overt symptom resolution. Analgesia and feelings of euphoria may accompany prolonged fasting, the result of increased circulation of endogenous opioids and ketones released in the catabolic state.6,20–22 Moreover, there is evidence that the metabolic abnormalities one might anticipate after the cessation of nourishment, which could conceivably result in discomfort, do not in fact occur.23 Although feeding intolerance is not an absolute requirement for FANH, parents in our study recognized that the provision of ANH to their child near the EOL, not in fact its discontinuation, was what resulted in increased suffering.

Although not all parents were confident that their child’s comfort increased after FANH, nothing that parents said indicated that the child suffered more as a result of this decision. Parental doubts about quality of death may reflect their own suffering from watching their child die, rather than the child’s actual discomfort as a result of FANH. The notion that discontinuing feedings (generally equated with the unpleasant experience of “starvation”) might improve comfort is counterintuitive, perhaps even more so among parents whose instinct is to feed a child.39 This cognitive dissonance may explain why all parents in this study felt compelled to provide small volumes of feedings after the decision.

A number of recommendations for clinical practice arise from this study. Parents who are open to FANH believe that their child is suffering but may not realize that FANH is an option. Therefore, physicians should take responsibility for introducing FANH upon ascertaining that the family perceives the child’s QoL as poor. Rather than emphasizing decreased nourishment with the term “forgoing artificial nutrition and hydration,” focus should be on the goal of “feeding for comfort,” an approach that is endorsed by others.40 Physicians also need to assure parents that under certain EOL circumstances, FANH is medically, legally, and ethically acceptable and is not a form of euthanasia. Health care providers should share their knowledge and experience with parents, because that information helps with decision-making while allowing them time and space to weigh the option. It should be assumed that parents will worry about the possibility of hunger,

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**TABLE 4 Perceptions About Quality of Death and Overall Experience**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Illustrative Quote</th>
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<tbody>
<tr>
<td>Persistent doubts and questions</td>
<td>“I don’t have second thoughts as far as I don’t regret the decision, but again it’s a decision that we often think, ‘Was it OK to make that decision?’ But it was the right decision, we don’t have second thoughts about that; it had to be the right decision.” (Sarah)</td>
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<tr>
<td>Satisfied with decision, no regrets</td>
<td>“I feel comfortable with [FANH]; it was the best thing for him, and for my wife and myself. . . . everyone involved. Like that part, I don’t question it one bit. I don’t sit there ever and say: ‘Oh I wish we did this differently.’ . . . I know for a fact, we did everything we could. Whether it be going to the hospital as many hours as we could or spending as much time with him, and bringing him home and caring for him the best way we could.” (Coaster)</td>
</tr>
<tr>
<td>Increased comfort after FANH</td>
<td>“I felt like I was doing the right thing. I felt like I was being a responsible parent and making the right decision for him. . . And I felt like I was caring for him too, that it was helping him . . . [crying] made him feel better. I think it was the right decision. Yeah, I don’t have any regrets or second guesses or anything.” (Elizabeth)</td>
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He became more comfortable. . . he wasn’t bloated . . . when he was being fed, like his belly would just sort of bloat. And he wasn’t breaking down the food that he was receiving, so it was very uncomfortable for him. So once we stopped [ANH] [it] just sort of allowed him to go peacefully.” (Coaster)
starvation, and dehydration after FANH. 41 Clinicians must emphasize that in these situations, feelings of hunger and starvation do not usually occur 22 as death approaches, many voluntarily refuse to eat and drink due to loss of appetite. Symptoms associated with dehydration, apart from thirst, have not been typically reported; good oral hygiene will avoid drying of the mucous membranes.

Ongoing parental doubts and questions about FANH should be expected; clinicians should provide anticipatory guidance around the dying process, reassurances about the child's comfort, and regular support. Some parents may appreciate speaking with other families whose child died after FANH; some might want written information about FANH. All parents should be offered opportunities to make memories and create legacies, such as photographs and hand molds.

Parents in our study emphasized the importance of the multidisciplinary team speaking in 1 voice. Regardless of the legitimacy of FANH under specific circumstances, personal beliefs may lead some professionals to be uncomfortable with this option or to reject it outright. The opinions of dissenting team members must be respected; their opinions, however, should not be shared with the family to avoid feelings of negative judgment. These staff members should be excused from direct involvement in the situation. In addition, to minimize the impact of moral distress, opportunities should be made available for staff to voice their objections without the family being present. 42

Although the changes associated with FANH open up the possibility of death at home, it is not uncommon for parents to be concerned about coping in this setting. 43 The health care team may allay these fears by explaining what the child's death at home after FANH will look like, mobilizing necessary community resources including nursing and hospice, and providing ongoing support and reassurance as death ensues.

This study has several potential limitations. The findings are limited to these 11 parents and represent retrospective perceptions of their FANH experience; they may not be generalizable. Caution must be used when applying these recommendations in other centers and with parents in the midst of having to consider this option. Most parents in this study had a higher than college-level education and nearly all had another healthy child at the time of decision-making. It is possible that these factors influenced their perceptions. All parents in this study withdrew ANH in their dying child (1 set of parents also withheld ANH); these findings may be less relevant when ANH has not yet been initiated. This study only examined the perceptions of parents who opted to FANH; future studies are needed to investigate the experience of parents who chose not to FANH.

CONCLUSIONS

Although FANH at the EOL is a legitimate form of palliation in children, clinicians have needed to rely on the adult medical literature or personal anecdotes to portray the experience to parents. This is the first study to use in-person interviews to describe the perceptions of parents whose children died after FANH. A number of recurrent themes emerged from this study: parents need to be ready to discuss FANH, which is largely determined by their perception of their child's poor QoL and the detrimental effects of

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**TABLE 5** Study Participation Experience

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are there any questions that you think we should not ask parents?</td>
<td>• Parents felt that all questions asked were appropriate</td>
</tr>
<tr>
<td>Are there other questions that you think we should ask parents?</td>
<td>• No questions were off limits</td>
</tr>
<tr>
<td>On a scale of 0 to 10 where 0 is “not at all” and 10 is “the most difficult I can imagine,” how difficult was it for you to talk about this issue?</td>
<td>• Scores ranged from 0 to 8</td>
</tr>
<tr>
<td></td>
<td>- Mothers: 0, 3, 3, 6, 5, 7, 7</td>
</tr>
<tr>
<td></td>
<td>- Fathers: 1, 6, 6, 7, 8</td>
</tr>
<tr>
<td></td>
<td>- In 2 couples, scores were dissimilar</td>
</tr>
<tr>
<td>Are you happy that you decided to participate?</td>
<td>• All parents were happy that they participated in this study</td>
</tr>
<tr>
<td>Did this interview help you in any way? If so, how?</td>
<td>• All parents noted positive aspects</td>
</tr>
<tr>
<td></td>
<td>- Some appreciated opportunity to speak about child</td>
</tr>
<tr>
<td></td>
<td>- Some described participation as a form of legacy creation</td>
</tr>
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<td></td>
<td>- Most identified altruism as driving force behind participation</td>
</tr>
<tr>
<td></td>
<td>- Most found it therapeutic</td>
</tr>
<tr>
<td>Would you recommend participation in this study to other parents?</td>
<td>• All would recommend participation to other eligible parents</td>
</tr>
<tr>
<td></td>
<td>- It was acknowledged that some might find it too difficult</td>
</tr>
<tr>
<td>How did you feel about the opt-out approach to recruitment?*</td>
<td>• All agreed that this approach worked for them</td>
</tr>
<tr>
<td></td>
<td>• One suggested this approach might increase accrual rates</td>
</tr>
<tr>
<td></td>
<td>• None felt it was coercive</td>
</tr>
</tbody>
</table>

* This question was asked of only the last 3 parents to be recruited to the study.
feeding; parents must be the ones to decide if FANH is right for their dying child, but they value the input and
reassurance of a unified medical team, particularly a trusted physician; and persistent doubts and fears of being
judged are common in parents and necessitate regular and ongoing support from the medical team after FANH.

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DEADLY HUNTERS: We have a cat. As much as we are not cat lovers, once Ingrid adopted us, we welcomed her into the family. She purrs, begs for petting, and snuggles up to us (or the dog) while we are watching TV or sitting by the fire. So, it is sometimes hard to reconcile this sweet, docile animal with the vicious hunter that she is. Ingrid spends a good part of each day outside and on most days, she brings home a small mammal that she has hunted and killed. Every once in a while she will bring home a bird. If we happen to catch Ingrid during the hunt, no amount of screaming by my wife will dissuade her. As we live on a small farm with plenty of field mice, we feel a bit uncomfortable but have not thought much about the global implications. However, as reported in The New York Times (Science: January 29, 2013), domestic cats are responsible for the deaths of billions of birds and small mammals each year in the US. Researchers systematically reviewed the literature on cat-wildlife interactions. They pooled the results from the 21 most rigorous studies and scaled the findings to national numbers. According to the model generated, cats are responsible for, on average, the deaths of 2.4 billion birds and 12.3 billion small mammals such as shrews, chipmunks and voles each year in the US. If true, the domestic cat is one of the single greatest human-linked threats to wildlife; responsible for more wildlife deaths than automobiles, pesticides and poisons, and collisions with skyscrapers and windmills. According to the article, free-roaming pet cats are only responsible for the deaths of approximately 29% of the birds and 11% of the mammals killed by domestic cats each year. The problem lies in how to control the approximately 80 million feral cats that commit the bulk of the killing. The report is sure to provoke furious debate not only about the findings but strategies to manage the feral cat population. As for us, we’ll continue to try to find ways to convince Ingrid to eat the cat food we leave for her rather than go hunting outdoors.

Noted by WVR, MD
Parental Perceptions of Forgoing Artificial Nutrition and Hydration During End-of-Life Care
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