

'Wrong treatment': Doctors' take on medical futility in a low-resource ICU

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Abstract

Background: Health caregivers in Intensive Care Units (ICUs) in developed countries have documented accounts of futile care for patients admitted into the Intensive Care Unit (ICU). But, evidence gaps exist in medical literature from developing countries on futility. While costs of establishing and running ICUs are astronomical in resource-poor countries, administration of medically futile care can further compound problems for ICU patients, family caregivers, health caregivers and hospital establishments. We sought and analysed the opinions of anaesthetists working in ICUs, highlighting the concept of medically futile care as perceived by health caregivers in low-middle income ICUs.

Materials & Methods: Using a phenomenological framework, this study involved face-to-face in-depth interviews conducted with 15 resident doctors working in two ICUs of a tertiary health institution in South-East Nigeria. Transcripts were analysed using Interpretive Phenomenological Analysis (IPA).

Results: Five core themes emerged: unnecessary procedures and interventions; intrinsic and extrinsic factors of medically futile care; family caregiver influences; negative notions of medical futility; ICU outcomes. One participant was of the view that not intervening medically might be best for some patients admitted into the ICU. Other participants described cases where patients received care which participants considered futile, noted possible causes of futile treatments and proffered strategies to correct such situations.

Conclusion: The surveyed doctors commonly view care to be futile in low-resource ICUs. Several factors are implicated including lack of goals in patient care, poor communication, lack of specialist training in intensive care and lack of protocols. Medical futility, in the opinion of these doctors, may contribute substantially to the challenges of running an ICU. This calls for multiple strategies for its reduction so as to ensure efficient use of scarce resources and improved outcomes in ICUs located in resource-limited settings.

Introduction

The word 'futility' is derived from the Latin word 'futilis' which means 'pouring out easily' or 'worthless' and the terminology 'futile care' was first defined in 1980.¹ The concept of futility in itself dates back to the legend of Danaus and Aegyptus who were two brothers who had fifty daughters and fifty sons respectively, with Aegyptus forcing Danaus's daughters to marry his sons.² All but one of the brides killed their spouses on the wedding night, necessitating the gods to punish the girls by assigning them the task of filling jars which were perforated with holes. So in essence, the girls were never able to complete the task, this in itself representing futility.² In addition, the Hippocratic oath sworn by doctors on their induction day includes an assurance not to manage patients who were "overmastered by their disease".² In the course of treating patients, every doctor is expected to adhere to professional values even when these values differ from personal values and beliefs.³ They are also expected to be able to discern ethical issues in any futile care that may present in the course of their practice and take the most appropriate decisions.⁴ The philosophical aphorism as hypothesized by Plato and Aristotle constrains the physician to consider what circumstances in the treatment processes are just and avoid emotions and desires to hold sway instead.⁴

The concept of futility has been known to be very controversial and of great academic interest as its definition remains contentious.⁵ Futility may be classified as quantitative, qualitative and psychologic and may be affected by factors like existing culture, traditions and beliefs of a people.⁶⁻⁸ Futility in medical care has been cited to be one of the most frequent reasons for seeking ethical consultations.⁶ It has various definitions including clinical interventions not likely to serve a useful purpose in attaining specific goals of patient management or when physicians decide based on personal experiences, shared experiences with colleagues or consideration of reported empirical data that a medical treatment is not useful.^{8,10} Some researchers claim that the basis for determining medical futility is flawed.⁷ In a bid to reduce conflicts between

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physicians, family carers and patients caused by the multiplicity of definitions for medically futile care, many health institutions in developed countries of the world have ethics committees and similar institutional bodies to resolve such conflicts.⁸ In some places, processes dealing with such conflicts have been passed into legislation.⁹ A review of available literature on the subject matter of medical futility reveals that it has been extensively researched in North America, the Middle-East and Europe.^{1,6,14-19} This is in stark contrast to this area in Africa where a paucity of research on the subject matter exists. Available statistics indicate that about 12 000 futility cases occur each year in the United States of America.¹⁰ In less developed countries of the world – such as Nigeria – no such data exists.

Health care providers in Intensive Care Units (ICUs) in the developed world have documented accounts of futile care for patients admitted into the unit.^{11,12} While costs of establishing and running an ICU are astronomical, especially in resource-poor countries, administration of medically futile care can further compound problems for ICU patients, family caregivers, health caregivers and hospital establishments as it has been established that futile care is sizable.¹³ The rationale for embarking on this study was to explore the concept of medically futile care as perceived by health care providers in a low-middle income ICU.

Materials and Methods

This study was conducted at a large tertiary health institution located in Enugu, South East Nigeria, which has two ICUs: a mixed 5-bed general ICU and a 4-bed cardiothoracic ICU, both admitting paediatric and adult patients. The participants were all resident doctors in anaesthesia at various stages of their training who were either doing their routine ICU posting or had just completed it during the study period. They had between two weeks and four years of working experience in the ICU and were all males. In the participants' hospital, the ICU is a semi-open type where consultant anaesthetists and trainee doctor anaesthetists under them are largely responsible for the patient's care. The patient's primary team only makes specialist inputs where necessary, hence the use of only anaesthesia doctors for this study. Following ethical approval obtained from the Hospital's Ethics and Research Committee (HREC), all participants were assured of confidentiality and anonymity before face-to-face in-depth semi-structured interviews were conducted, utilizing a set of ten (10) predetermined questions (Table 1) and recorded with audiotapes. Contemporaneous notes on non-verbal cues were made following each interview. Each interview session held in the anaesthesia resident's call room was conducted by the lead author and lasted between 25-40 minutes.

The opinions of these doctors were sought concerning aspects of patient care which they considered futile, possible causes of futile treatments as well as proffering strategies to correct such situations. Questions asked included instances of inappropriate care, excessive care or under care, factors responsible for such care, factors with the highest impact on patient management as well as family caregiver influences. Other questions included defining a good outcome in ICU, bad outcome in ICU, defining a good death, giving their definitions of medical futility as well as describing the degree to which they perceived medical futility occurred in

the ICU. At the conclusion of all interviews, audio recordings of the interviews were carefully listened to multiple times, carefully transcribed verbatim by two of the authors (TCO, IO) to ensure that the participants' accounts accurately reflected their perceptions on the subject matter. Afterwards, the transcripts were subjected to qualitative content analysis utilising the Interpretative Phenomenological Analysis (IPA) approach. This analysis involved a thorough reading and re-reading of the transcripts several times by three of the authors, to ensure participants' opinions were accurately captured. This was followed by identifying emergent key themes that were expressed by the participants as well as those that best conveyed the responses of the residents. As themes emerged, similar themes were grouped together in clusters and superordinate and subordinate themes identified. Finally, all authors reviewed findings of the analyses.

Results

All participants were males – four registers and eleven senior registrars (a total of fifteen residents [N = 15]) – who were all within two to five years of the residency training. Following analysis of their interviews, five main content areas emerged: unnecessary procedures and interventions, intrinsic and extrinsic factors of medically futile care, negative notions of medical futility, family caregiver influences and ICU outcomes.

Theme 1 – Unnecessary procedures and interventions

In several instances, participants commented on patients receiving what they observed to be inappropriate care, excessive care or under-care in their ICU management (Box 1). One participant noted that sometimes, not intervening might be the best for some patients admitted into the ICU. He gave an example of a patient admitted under his care with severe head injury and Glasgow coma score of 3, whose father was a poor farmer. The patient was placed on mechanical ventilation but unfortunately died after four days, accumulating a large bill that his father could not pay. This consequently increased the burden of family, thus causing more harm financially and emotionally to the family of the patient. Participants described scenarios such as a patient with inoperable intracranial pathologies admitted into the ICU rather than referred to the Palliative Care Unit and being under pressure from a senior colleague to give an intervention in a situation that the participant deemed medically futile (Box 2).

All participants agreed that ICU management of patients was resource-intensive. One participant commented, '*If I ever have to come to the ICU to be admitted as a patient, I would rather prefer I die and my family have the money that should have been spent on me*' while yet another participant remarked, '*We have to give economically-sensitive care of patients in our resource-constrained ICU environment. If ABGs (arterial blood gases) are done hourly in developed countries because resources are available and medical insurance takes care of a good deal of the care, we need to remember that here, people pay out-of-pocket and funeral services are expensive so these must be put into consideration*'. In general, participants seemed to show much empathy (as suggested by the expression of non-verbal actions of sighing, distressed/agitated tone pitches and sad facial expressions) towards the patients they had cared for in the ICU whom they deemed to have received medically futile care.

Theme 2 – Intrinsic and extrinsic factors of medically futile care

When asked what they thought were the factors responsible for such care, participants gave a number of reasons which included lack of established protocols for patient management in the ICU, no well-outlined goals of treatment, inadequate training in intensive care medicine and lack of communication between health caregivers and patient's family (Box 2). Participants discussed having to care for patients whose care they felt should have received participation of the palliative care team but did not, especially as they had deemed such cases end-of-life situations. They spoke of their frustration at not having clear protocols to streamline patient admission into the ICU, hence avoiding wrong admissions or late admissions, and no well-defined goals of care. One participant cited a case where the patient's family expected a recovery while in reality the patient's prognosis was very poor, and attributed this situation to lack of adequate information from the managing team. They emphasised the need for family conferences to help put the patient's illness in perspective, increase understanding of the medical care being administered, and reduce the numbers of medical procedures that may not be beneficial to patients on admission in the ICU. Participants also expressed their desire to have some training in intensive care medicine, explaining that it would help finetune their skills and give them confidence when making inputs into patient care, which is often disregarded. When participants were asked the factors with the highest priority, unavailability of well-defined protocols, lack of specialist training in intensive care medicine, lack of goals of care and poor communication were noted.

Theme 3 – Family caregiver influences

One pertinent issue discussed by the participants was the role of family members in the administration of medically futile care (Box 3). They stated that such influences were almost always from patient's relatives who were usually either doctors, nurses or high-profile individuals. One participant recollected receiving a phone call, placed from outside the country, from the doctor-relative of a metastatic cancer patient being mechanically ventilated who after demanding to know what was being done for the patient, attempted to modify the patient's medical care on the phone. Participants recalled requests made by families to keep patients on mechanical ventilation despite the fact that they knew such patients were clinically dead. In the view of the participants, sometimes the notion for continued multi-organ support was fuelled by external factors such as religious factors (e.g. belief in the events of the afterlife) and cultural factors (e.g. belief in traditional medicine efficacy). In one situation, a family carer whose mother was in a diabetic coma and had gangrene from diabetic foot declined surgical amputation of the foot, requesting her mother be left alone to die rather than have her gangrenous foot be removed, so that she would have her feet intact in the afterlife following her death.

Theme 4 – ICU outcomes

When participants discussed the patients who in their opinion had received medically futile care, they also discussed their interpretation of ICU outcomes and ICU death. Some participants were of the opinion that futile care when given to a patient would inevitably result in a bad ICU outcome. Participants told stories

such as that of a patient with traumatic brain injury who should have had surgery but received conservative management instead and died as a result. They gave various definitions to a good outcome in the ICU (Box 4), a bad outcome in the ICU (Box 4) and also proffered their perceptions of a good death in the ICU (Box 4). In describing his concept of a good death in the ICU, one participant remarked, 'I consider a death in the ICU, a good death when patient dies with dignity and dies surrounded by family members who have been counselled to accept the negative outcome'.

Theme 5 - Negative notions of medical futility

All but one of the participants reported having observed or administered what they believed to be medically futile care on at least one occasion in the ICU. The overwhelming tone for most participants was negative. The participant who claimed not to have had any experiences of futile care was the youngest participant in the study, having worked for less than one month in the ICU before this study. With regards to defining the term, 'medical futility,' participants had various definitions. Participants were of the general opinion that the phenomenon of medically futile care could be said to occur when a patient is unlikely to improve even when given the best kind of care obtainable at that time. One participant defined medical futility as, '*carrying out an intervention in a patient that has been deemed unnecessary and of no benefit, but must be done to give a semblance of effort being made to treat the patient.*' Another defined it as, '*a situation where inputs made towards patient care are standard but because of patient's clinical status, outcome would be poor.*' Two other participants defined medical futility as, '*any intervention that will not likely change or improve clinical outcome*' and '*giving medical care that will not produce positive results.*'

In addition, participants had varying perceptions as to the degree to which they felt that medical futility occurred in the ICU (rated on a scale of 0 to 10 where 0 means no futility and 10 means the worst degree of futility). Five participants gave a score of 10, two each gave scores of 9, 8 and 7 respectively and while one participant gave a score of 1, another did not consider medical futility to exist at all in the ICU. In all, the general consensus of participants in this study was that medical futility existed in the ICU to a significant magnitude.

Discussion

The admissions in this study by all but one anaesthesia resident doctor (93.3%) to the personal experience of futility in the ICU as well as the admissions by participants that medical futility exists in the ICU to a significant extent seem to indicate futile care is a significant problem within the context of ICU care. The results are comparable to a study conducted by Chamberlin et al. which found that 91.3% of doctors admitted to occurrence of the futility phenomena.²⁴ Hence, several studies have been conducted to seek the best ways to reduce the occurrence of non-beneficial treatments in the ICU. Anderek et al. in an exploratory trial to determine the efficacy of ICU ethics consultation in reducing futile treatments, concluded that ethics consultations made minimal impact while Sneiderman et al. in exploring the impact of ethics consultation, concluded with a contrary opinion that such consultations resulted in reduced length of stay for some ICU patients as well as reduction

in life-sustaining treatments for other ICU patients who were not able to recover for discharge.^{25,26}

On perceived inappropriate care, participants were quick to cite several real-life scenarios of disproportionate care that they encountered. This submission tallies with findings from two multicentre, multinational studies by Piers et al. and reports from the United States which cite perceptions of European and Israeli clinicians and American clinicians respectively of disproportionate care being a leading form of inappropriate care in the ICU.²⁷⁻²⁹ The examples of '*tracheostomies in patients not expected to survive beyond 24 to 48 hours*' and '*post-cardiac surgery patient with severe cerebral anoxia on mechanical ventilation for over 2 months*' were some of the situations alluded to by the participants who felt these types of patients should not have been in the ICU. This reality aligns with findings from Chang et al. which suggests that ICU care may be inefficient because most of its resources are devoted largely to patients unlikely to benefit from them.³⁰ A survey of 808 medical ICU admissions revealed that more than 50% of the patients had priority ranks suggesting that they were relatively too well or too sick to be in the ICU or would have best been managed in the wards while 65% of total ICU days were given to care that had a low likelihood of ICU benefit or could be managed in the general ward.³⁰ Also, frequent ICU use is associated with an increased tendency to carry out invasive procedures that are costly but do not lead to a reduction in mortality rates.³¹ In a study of Nigerian ICUs, 96% of junior clinicians acknowledged high rates of inappropriate admissions due to pressure from senior colleagues (93.7%), referring clinicians (89.1%), and hospital management (87.5%).³¹ To avoid inappropriate admissions, clinicians and hospital management are advised to adopt established guidelines for ICU triage.^{14,15}

Communication was touted as a substantial factor in this study for inappropriate admissions and subsequent futile care. Participants identified the lack of discussions with or counselling of family members as being a crucial issue. This may often be caused by the fear-avoidance approach resulting from the inability of the clinician to break 'bad news.' While good communication between clinicians and family members is important, poor communication between families and ICU doctors is the prevailing norm.³⁴⁻¹⁶ A study of family surrogates of patients in a Norwegian ICU revealed that opportunities for communication and consequent involvement of family members in the decision-making process of terminating care rarely involved discussions on family and patient's preference but rather dwelt on clinical details which were ambiguous, leaving families with unanswered questions.¹⁷ These conflicts can be resolved by the involvement of the hospital's Clinical Ethics service as family conferences led by trained ethicists have been known to produce successful results.⁹ Insufficient communication between clinicians (doctors and nurses) results in perceived conflicts and often times ensues from unilateral decisions taken by doctors. Conflicts like these have been known to produce emotional distress for nurses while patients are in their care, and emotional distress can result in reduced quality of care.^{18,19} When family carers have good emotional support and better information about their patients, they could be encouraged to consider a palliative care team involvement.²⁰ The four competencies involved in patient and family carer satisfaction in ICU (adept prognosis discussion, shared decision making, active listening and empathy), all packaged in one

family meeting session is guaranteed to reduce the occurrence of medically futile care.⁴²

The influence of family caregivers in the decision to provide medically futile care was one point raised by participants in this study. Some researchers have argued that some futile treatments requested by family members may have a place in medical practice.²¹ Religious requests made by families, such as the one narrated by study participants involving the family carer who declined foot amputation for her mother, have been noted to have major influences in care decisions made by clinicians. Ayeh et al. found physicians are more willing to accommodate requests to continue life-sustaining treatments when the request was based on religious affiliations than on hopes of divine healing.⁴⁴ Superdock et al. are of the opinion that religion and spirituality (R&S) are important in decision-making by family caregivers of seriously-ill patients as R&S provides personal comfort and direction to these caregivers.⁴⁵ They posit that this stance complements the decision-making and care given by healthcare providers to seriously-ill patients and enhances communication between family caregivers and healthcare providers. Gelinis et al. were able to identify sources of stress (organizational, professional, and emotional) related to the conflict clinicians have with family carers about discontinuing life-sustaining treatments and other issues, and suggested providing emotional support for ICU staff as well as education in end-of-life care and palliative care, while maintaining a good relationship with family carers and educating them on importance of reducing occasions of bodily injury and suffering to susceptible patients in the ICU.⁴⁶

Another factor enumerated by respondents as being responsible for medically futile care is the non-regard for medical opinion/input from junior clinicians, which in turn elicits a feeling of 'powerlessness'. This feeling can be related to similar feelings exposed by a qualitative study on medically futile care by Dzung et al. where internal medicine trainee physicians expressed inability to prevent potentially harmful and futile treatments, often attributing it to the hierarchy in existence in their respective institutions.⁴⁷ The differing roles of the trainees within this study as 'inexperienced' underlings with little or no role in decision-making and 'frontline foot soldiers' expressly carrying out the instructions of the consultant in-charge, gives room for insecurity that confounds ability to deal with ethical conflicts. This perceived 'powerlessness' is touted to be an indicator of moral distress and is equally common among ICU nurses.^{22,23}

Passionate statements seen in Theme 1 which were voiced by some participants, displaying their empathic emotions. Besides these verbal expressions, non-verbal actions of sighing, distressed/agitated tone pitches and sad facial expressions were expressed towards patients they had cared for in the ICU, whom they deemed to have received medically futile care. These cues were an indication of their reluctance to carry out certain procedures they perceived to be 'harmful', 'disastrous' or 'not beneficial' on patients. Such expressions have been known to produce significant moral distress in such doctors. In the study by Dzung et al., trainee physicians used words such as 'torture', 'abuse' and 'cruel' to describe some of the end-of-life cases in their care, expressing associated feelings of being 'traumatized' and 'violated'.^{4,47} In this matter, doctors are not

alone in experiencing situations they consider to be medically futile but are compelled by hospital standards to administer treatment. Nurses are known to have higher levels of moral distress than doctors.⁴⁸ Borhani et al. postulate that the recurrent experience of futile care can result in negative psychological changes in clinicians and thus increase their susceptibility to moral distress.⁴⁹ Dzung et al. surmise that administering perceived futile care to patients may trouble the consciences of these trainees, producing moral distress while Rosenthal and Clay advocate for trainee education and mentoring in ethics of end-of-life care as initiatives to reduce such distress.^{47,50} Chukwunke suggests that in order to reduce the occurrence of moral distress, the moral acceptability of obligation to duty should be the basis for a physician's actions in the course of patient management.⁵¹ In addition, physicians should be adequately informed that patients have fundamental rights no matter how bad their health condition may be and are entitled to be given treatment until they die naturally. The duty of care implies physicians must protect the lives of patients and should never abandon life or hasten their death at any point.²⁴

The constant barrage of ethical dilemmas faced by the intensivists and the attendant moral distress portends negative consequences for patient care such as cynicism, burnout, decline in empathy and ethical erosion.^{47,52} While this study did not examine these issues in the participants, it has been noted that cynicism can cause young doctors to question the relevance of their care of patients and the occurrence of severe burnout syndrome is high in critical care doctors and nurses, especially in relation to end-of-life care scenarios like decisions to forgo life-sustaining treatments.⁵¹⁻⁵³ In the environment of the participants of our study, ethics as a subject is not taught in undergraduate and postgraduate medical curricula and this omission may contribute significantly to the ethical dilemmas faced by doctors working in this low-resource ICU. Also, as these trainees are in the formative years of their professional career, their experience of moral distress may result in reduction in empathy towards patient and the adoption of negative coping strategies like emotional detachment and dehumanization as protective mechanisms to deal with the reality of medically futile care.^{47,54} Positive coping strategies like weekly 'death rounds' in which the medical team can deal with the emotions associated with ethical decisions taken in the course of patient management have been advanced as viable alternatives.^{25,26}

The interpretive phenomenological analysis (IPA) approach to this research was necessitated by the lead author's daily interactions with the residents while at work.⁵⁷ Phenomenology is touted to be one of the richest forms through which life experiences can be interpreted – the so-called 'lived experience'.²⁷ In the case of the respondents, one would ordinarily assume their daily activities in the ICU did not bother them beyond their general hope and expectation of patient recovery. But use of IPA allowed an understanding of not only what the respondents feel about the phenomenon of medically futile care and what the experience means to them, but also how they experience such care, hence granting an understanding of the phenomenon 'from the inside'.⁵⁹ The authors also considered use of this qualitative approach to the methodology as very appropriate especially because it is considered ideal when used in the study of complex biopsychosocial phenomena, which occurs within the context of the ICU as well as healthcare research.⁵⁹

The organisational system in place in this study ICU utilizes the services of doctor anaesthetists only, hence the justification for use of only doctors for this research. The purposive sampling of a homogenous group of resident doctors, which utilized a small sample size, was advantageous as it allowed for in-depth interviews and thus detailed interpretive accounts on medical futility in the ICU. However, one may consider the recruitment of resident doctors only in this study – with no consultant anaesthetists interviewed – as introducing the possibility of sampling bias, as the perspectives of consultants may be different judging by their years of experience in the ICU. Besides, factors like age and experience of the physician have been known to influence the final moral decision taken in situations of ethical dilemma in medical practice.¹⁵ But the authors consider the first-person narrative of the resident doctors very relevant as they are the foot soldiers in the medical battlefield. Finally, participants' quantitative assessment of futility can be considered to be subjective as there is no recognised objective quantitative measure of futility.

Conclusion

Despite significant disparities between developed and developing nations concerning availability of ICU resources, this study – which is the first of this kind from a developing nation in Africa – suggests that medical futility may be a constant feature in ICUs of both resource-rich and resource-poor nations of the world. Futile medical interventions are disadvantageous as they increase patient pain and discomfort, give a false sense of hope of progress or recovery for family carers, delay palliative care interventions and increase financial burden. The ICU anaesthesia resident doctors in this study seem to concur that futile care appears predominant in this low-resource ICU with several factors implicated including lack of goals of treatment, no specialist training in intensive care medicine and lack of protocols. In addition, the identification of poor communication as a contributory factor to the existence of medical futility further highlights that appropriate communication tools should be incorporated to aid clinicians in supporting family caregivers along with medical decision-making and treatment.⁶⁰ Medical futility, in the opinion of the health caregivers enrolled in this study, may contribute substantially to the challenges of running an ICU.

While this study is particularly relevant to the study centre, concerns regarding futile treatment in ICU pervade most medical practices. For doctors working in low-resource ICUs, decisions to admit patients should be based on the evidence of best practices.⁶¹ In addition, the authors recommend the establishment of goals of treatment, use of protocols for all procedures, clear delineation of duties for all staff in the ICU to avoid overlap of duties and patient neglect, training doctors in intensive care and early introduction of palliative care, to reduce the occurrence of medical futility.⁶² Other recommendations include incorporation of bioethics in the course content of medical and nursing undergraduate and postgraduate curricula, counselling and education of patients and their families on advance directives and the production of professional society/national guidelines relating to the provision of futile care. Finally, further studies involving family caregivers as well as multicentric site studies in resource-poor environments examining the perspectives of other cadres of clinicians in the ICU such as consultants and nurses are encouraged.

References

- Gabbay E, Calvo-Broce J, Meyer KB et al. The empirical basis for determinations of medical futility. *Journal of General Internal Medicine* 2010; 25: 1083-1089.
- Bonner C. Study of the Danaid myth. *Harvard Studies in Classical Philology* 1902; 13: 129-173.
- Shaner MD. Up in the air — suspending ethical medical practice. *N Engl J Med* 2010; 363:1988-1989
- Medical Board of Australia. Good medical practice: a code of conduct for doctors in Australia. 2018 [updated 2018 Jan 1]. Available from: <http://www.medical-board.gov.au/Codes-Guidelines-Policies/Code-of-conduct.aspx>
- Chukwunke FN. Ethics of palliative care in late-stage cancer management and end-of-life issues in a depressed economy. *Nigerian Journal of Clin Pract* 2015; 18(7): 15 - 19.
- Yekefallah L, Ashktorab T, Manoochehri H, et al. Nurses' experiences of futile care at intensive care units: a phenomenological study. *Global Journal of Health Science* 2015;7(4): 235-242.
- Schneiderman LJ. Defining medical futility and improving medical care. *Journal of Bioethical Inquiry* 2011; 8(2): 123-131.
- Wilkinson DJC, Savulescu J. knowing when to stop: futility in the intensive care unit. *Curr Opin Anaesthesiol*. 2011; 24(2): 160-165.
- Gallagher CM, Holmes RF. Retrospective Review of Medical Futility and Ethics Consultations at MD Anderson Cancer Center. *Journal of Clinical Research Bioethics* 2011; 2:115.
- Swetz KM, CM Burke, KH Berge, et al. Ten common questions (and their answers) on medical futility. *Mayo Clin Proc*. 2014;89(7):943-59.
- Jox RJ, Schaidler A, Marckmann G, et al. Medical futility at the end of life: the perspectives of intensive care and palliative care clinicians. *J Med Ethics*. 2012;38(9):540-5.
- Fine RL. Point: The Texas Advance Directives Act effectively and ethically resolves disputes about medical futility. *Chest* 2009; 136(4): 963-967
- White DB, Pope TM. The Courts, Futility, and the Ends of Medicine. *JAMA* 2012; 307(2): 151-152.
- Neville TH, Wiley JF, Yamamoto MC, et al. Concordance of Nurses and Physicians on Whether Critical Care Patients are Receiving Futile Treatment. *Am J Crit Care*. 2015;24(5):403-10.
- Neville TH, Wiley JF, Holmboe ES, et al. Differences between attendings' and fellows' perceptions of futile treatment in the intensive care unit at one academic health center: implications for training. *Acad Med*. 2015; 90(3): 324-330.
- Aghabary M, Nayeri ND. Reasons behind providing futile medical treatments in Iran: A qualitative study. *Nurs Ethics*. 2017;24(1):33-45.
- White B, Willmott L, Close E, et al. What does "futility" mean? An empirical study of doctors' perceptions. *Med J Aust*. 2016; 204 (8): 318
- Teixeira A, Figueiredo E, Melo J, et al. Medical Futility and End-of-Life Decisions in Critically ill Patients: Perception of Physicians and Nurses on Central Region of Portugal. *J Palliative Care Med*. 2012; 2:4
- Kompanje EJ, Piers RD, Benoit DD. Causes and consequences of disproportionate care in intensive care medicine. *Curr Opin Crit Care*. 2013;19(6):630-5.
- Jauhar Sandeep. It's not just about quality of life. 2015. *The New York Times*. [cited 2017 July 20] available from: www.nytimes.com/2015/05/03/opinion/sunday/sandeep-jauhar-its-not-just-about-quality-of-life.html
- Whitmer M, Hurst S, Prins M, et al. Dimens Medical futility: a paradigm as old as Hippocrates. *Crit Care Nurs*. 2009; 28(2):67-71.
- Lambden JP, Chamberlin P, Kozlov E, et al. Association of perceived futile or potentially inappropriate care with burnout and thoughts of quitting among health-care providers. *Am J Hospice Palliat Med*. 2019; 36(3): 200-206.
- Huynh T, Kleerup E, Wiley J et al. The Frequency and Cost of Treatment Perceived to Be Futile in Critical Care. *JAMA Intern Med*. 2013;173(20):1887-1894.
- Chamberlin P, Lambden J, Kozlov E, et al. Clinicians' Perceptions of Futile or Potentially Inappropriate Care and Associations with Avoidant Behaviors and Burnout. *J Palliat Med*. 2019;15(20):133-134
- Andreck WS, McGaughey JW, Schneiderman LJ, et al. Seeking to reduce non-beneficial treatment in the ICU: an exploratory trial of proactive ethics intervention. *Crit Care Med*. 2014;42(4):824-30.
- Voigt LP, Rajendram P, Shuman AG, et al. Characteristics and outcomes of ethics consultations in an oncologic Intensive Care Unit. *J Intensive Care Med*. 2015;30(7):436-42.
- Piers RD, Azoulay E, Ricou B, et al. Inappropriate care in European ICUs: confronting views from nurses and junior and senior physicians. *Chest*. 2014; 146(2):267-275.
- Piers RD, Azoulay E, Ricou B, et al. Perceptions of Appropriateness of Care Among European and Israeli Intensive Care Unit Nurses and Physicians. *JAMA*. 2011;306(24):2694-2703
- Anstey MH, Adams JL, McGlynn EA. Perceptions of the appropriateness of care in California adult intensive care units. *Critical Care*. 2015; 19:51.
- Chang DW, Dacosta D, Shapiro MJ. Priority levels in medical intensive care in an academic public hospital. *JAMA Intern Med*. 2016; 177(2): 280.
- Chang DW, Shapiro MF. Association between Intensive Care Unit utilization during hospitalization and costs, use of invasive procedures, and mortality. *JAMA Intern Med*. 2016; 176(10):1492-1499.
- Osinaike BB, Olusanya O. Inappropriate Intensive Care Unit admissions: Nigerian doctors' perception and attitude. *Niger J Clin Pract*. 2016;19(6):721-724
- Nates JL, Nunnally M, Kleinpell R, et al. ICU admission, discharge, and triage guidelines: a framework to enhance clinical operations, development of institutional policies, and further research. *Crit Care Med*. 2016;44(8):1553-602.
- Ramos JBR, Perondi B, Dias RD, et al. Development of an algorithm to aid triage decisions for intensive care unit admission: a clinical vignette and retrospective cohort study. *Critical Care*. 2016;20:81
- Peigne V, Chaize M, Falissard B, et al. Important questions asked by family members of intensive care unit patients. *Crit Care Med*. 2011;39(6):1365-71
- Jacobowski NL, Girard TD, Mulder JA, et al. Communication in critical care: family rounds in the intensive care unit. *Am J Crit Care*. 2010;19(5):421-30.
- Daly BJ, Douglas SL, O'Toole E et al. Effectiveness trial of an intensive communication structure for families of long-stay ICU patients. *Chest*. 2010;138(6):1340-8.
- Scheunemann LP, McDevitt M, Carson SS, et al. Randomized, controlled trials of interventions to improve communication in intensive care: a systematic review. *Chest*. 2011;139(3):543-554.
- Lind R, Lorem GE, Nortvedt P, et al. Family members' experiences of "wait and see" as a communication strategy in end-of-life decisions. *Intensive Care Med*. 2011; 37(7): 1143-1150.
- Azoulay E, Timsit JF, Sprung CL, et al. Prevalence and factors of intensive care unit conflicts: the conflict study. *Am J Respir Crit Care Med*. 2009 ;180(9):853-60.
- Workman S. A communication model for encouraging optimal care at the end of life for hospitalized patients. *Q J Med*. 2007; 100:791-797
- Adolph MD, Frier KA, Stawicki SPA, Gerlach AT, et al. Palliative critical care in the intensive care unit: A 2011 perspective. *Int J Crit Illn Inj Sci*. 2011; 1(2): 147-153.
- Truog RD. Is it always wrong to perform futile CPR? *N Engl J Med* 2010; 362: 477 - 479
- Ayeh DD, Tak HJ, Yoon HD, et al. U.S. physicians' opinions about accommodating religiously based requests for continued life-sustaining treatment. *J Pain Symptom Manage*. 2016; 51(6): 971-978
- Superdock AK, Barfield RC, Brandon DH, et al. Physicians' opinions about accommodating religiously based requests for continued life-sustaining treatment. *J Pain Symptom Manage*. 2016;51(6):971-8.
- Gélinas C, Fillion L, Robitaille MA, et al. Stressors experienced by nurses providing end-of-life palliative care in the intensive care unit. *Can J Nurs Res*. 2012;44(1):18-39.
- Dzeng E, Colaianni A, Roland M, et al. Moral distress amongst American physician trainees regarding futile treatments at the end of life: a qualitative study. *J Gen Intern Med*. 2016; 31(1): 93-99.
- Karanikola MN1, Albarran JW, Drigo E, et al. Moral distress, autonomy and nurse-physician collaboration among intensive care unit nurses in Italy. *J Nurs Manag*. 2014;22(4):472-84.
- Borhani F, Mohammadi S, Roshanzadeh M. Moral distress and perception of futile care in intensive care nurses. *J Med Ethics Hist Med*. 2015; 8:2.
- Rosenthal MS, Clay MC. Initiatives for Responding to Medical Trainees' Moral Distress about End-of-Life Cases. *AMA J Ethics*. 2017;19(6): 585 - 594.
- Chukwunke FN. Medical incidents in developing countries: A few case studies from Nigeria. *Nig J Clin Pract*. 2015; 18(7): 20 - 24.
- Fumis RRL, Junqueira Amarante GA, de Fátima Nascimento A, et al. Moral distress and its contribution to the development of burnout syndrome among critical care providers. *Ann Intensive Care*. 2017;7(1):71.
- Eikeland HL, Ørnes K, Finset A, et al. The physician's role and empathy - a qualitative study of third year medical students. *BMC Med Educ*. 2014;14:165.
- West CP, Shanafelt TD, Kolars JC. Quality of life, burnout, educational debt, and medical knowledge among internal medicine residents. *JAMA*. 2011;306(9):952-60.
- Moss M, Good VS, Gozal D, et al. An official critical care societies collaborative statement—burnout syndrome in critical care health-care professionals. *Chest*. 2016;150:17 - 26.
- Smith L, Hough CL. Using death rounds to improve end-of-life education for Internal Medicine residents. *J Palliat Med*. 2011;14(1):55-8.
- Murray SJ, Holmes, D. Interpretive Phenomenological Analysis (IPA) and the Ethics of Body and Place: Critical Methodological Reflections. *Hum Stud*. 2014;37: 15.
- Lee K, Krauss SE. Why use qualitative research methods to understand the meaning of clients' experiences in healthcare research? *IJPHCS*. 2015; 2 (4): 2289-7577
- Smith JA, Osborn M. Interpretative phenomenological analysis as a useful methodology for research on the lived experience of pain. *Br J Pain*. 2015; 9(1): 41-42.
- Harding R, Hopkins P, Metaxa V, et al. Do we have adequate tools and skills to manage uncertainty among patients and families in ICU? *Intensive Care Med*. 2017;43(3):463-464.
- Bassford C. Decisions regarding admission to the ICU and international initiatives to improve the decision-making process. *Critical Care*. 2017; 21:174.
- Piili RP, Lehto JT, Luukkaala T, et al. Does special education in palliative medicine make a difference in end-of-life decision-making? *BMC Palliat Care*. 2018; 17(1):94.