

End of Life Care in End-Stage Kidney Disease

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Abstract

There is a rise in burden of end-stage renal disease globally and in India. The symptom burden, prognosis, and mortality in chronic kidney disease closely mimics that of cancer. However, the palliative and end of life care needs of these patients are seldom addressed. A consensus opinion statement was developed outlining the provision of end of life care in end-stage kidney disease. Recognition of medical futility, consensus on medical futility, and cessation of potentially inappropriate therapies and medications are the initial steps in providing end of life care. Conducting a family meeting, communicating prognosis, discussing various treatment modalities, negotiating goals of care, shared decision-making, and discussion and documentation of life sustaining treatment are essential aspects of end of life care provision. The provision of end of life care entails assessment and the management of end-stage kidney disease symptoms and the care extends beyond the death of the patient to their families in the bereavement period.

Keywords: Advanced care, conservative care, end of life care, end-stage kidney disease

INTRODUCTION

According to the WHO Global Burden of Disease (GBD) estimates, globally five to ten million people die annually due to kidney disease and around 2.3–7.1 million with end stage disease die due to the lack of access to chronic dialysis.^[1] The GBD ranked chronic kidney disease (CKD) as 17th among the causes of death globally with an age adjusted death rate of 19.2/100,000 population. According to the GBD 2015, CKD ranks as the eight-leading cause of death in India.^[1] According to the estimates from the Millions Death Study report, 2.9% of deaths in 2013 were attributed to renal failure which amounts to around 130,000 deaths per year in India out of 4.6 million total deaths. A patient with CKD-5D on hemodialysis has on an average has 7.5 symptoms with 4.5 symptoms rated as very severe on Edmonton Symptom Assessment Scale.^[2] One and five years survival rate is 75% and 35% after the initiation of dialysis. The burden of the disease, mortality, symptoms, and prognostic estimates in patients with CKD are similar to patients with cancer.^[3] However, palliative care is seldom applied to patients with CKD due to cancer centricity of palliative care worldwide. Current evidence suggests that the end of life care practice is not consistent with the preferences

of patients with advanced CKD.^[4] Majority of patients die in acute care facilities receiving high intensity treatment that may not be warranted.^[5] There is a gap in knowledge about palliative and end of life care in end-stage kidney disease. This article is a consensus opinion statement of renal and palliative care physicians on providing end of life care in end-stage kidney disease.

END OF LIFE CARE IN END-STAGE KIDNEY DISEASE

Steps involved in providing end of life care in end-stage kidney disease have been modeled according to 12-step pathway described in the joint society guidelines of the Indian Society of Critical Care Medicine and Indian Association of Palliative Care.^[6]

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Submitted: 24-Feb-21

Accepted: 05-Apr-21

Published: 30-May-21

Access this article online

Quick Response Code:



Website:
www.jpalliativecare.com

DOI:
10.4103/ijpc.ijpc_64_21

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How to cite this article: Prabhu RA, Salins N, Bharathi, Abraham G. End of life care in end-stage kidney disease. Indian J Palliat Care 2021;27:S37-42.

Considering cessation of potentially inappropriate treatment

According to the Indian Council of Medical Research (ICMR), potentially inappropriate treatment is defined as “clinical interventions that carry far greater possibilities of harm than reasonable possibilities of benefit.”^[7] The Gold Standards Framework Proactive Identification Guidance (GSF-PIG) 6th edition published in 2016^[8] has provided a framework for identifying people with end stage kidney disease approaching end of life. GSF-PIG has three steps. The first step is the surprise question where the physician asks self where he/she would be surprised if the patient is to die in a year, months, weeks, or days. If the physician is not surprised that the patient may die in the next few days or weeks, it would be a good starting point for considering cessation of dialysis in end-stage kidney disease. The next step is to look into general indicators of decline, which may include increased dependence, multiple unplanned admissions, complex symptom burden, declining functional status, decreasing response to treatment, patient choosing only quality of life measures, significant weight loss, and hypoalbuminemia. The third step is to look into specific indicators of decline in end-stage kidney disease, which include poor tolerance of dialysis, or patients not opting for dialysis or difficult to control symptoms like intractable pruritus, nausea, fluid overload states not responding to renal replacement therapies. The potentially inappropriate treatment is not just limited to cessation of hemodialysis but should also include considering stopping of medications that the patient with end-stage kidney disease may be receiving, which may be inappropriate. In a study conducted in elderly hemodialysis patients, usage of potentially inappropriate medications ranged from 43% to 63%,^[9] which included long-term proton-pump inhibitors, anti-histamines, calcium channel blockers, Aspirin, selective serotonin reuptake inhibitors, and tricyclic antidepressants that may not be conferring any clinical benefit.

Developing physician consensus on cessation of potentially inappropriate treatment in end-stage kidney disease

Once the renal physician feels that patient is receiving potentially inappropriate treatment the next step is to develop a consensus on cessation. Limitation of care should not be based on personal viewpoint of futility but has to be a broad-based consensus decision.^[10] An American study recorded 48% conflict among healthcare providers during decisions to forego potentially inappropriate treatment.^[11] It is advisable to have a consensus among the treating team about cessation of potentially inappropriate treatment and this decision can be ratified by two renal physicians not directly involved in the care of the patient. This process ensures transparency, accountability and due diligence in decision-making. Any conflicts arising due to this process can be referred to the hospital ethics committee for further decision-making.

Communicating prognosis to patients and their families

Prognosis must be communicated to patients and their families whenever the illness has progressed and refractory to treatment or has severe complications from treatment that limit its

effectiveness. The physician communicating the prognosis has to be prepared for the communication by having a full knowledge about patient’s clinical condition and any doubts related to treatment decision making should be clarified with the peers before the communication. The physician should conduct this communication in a quiet private setting without interruptions to ensure undivided attention to patients and their caregivers. Before communicating the prognosis, the physician should clarify the patient and family caregiver’s level of understanding of the illness, information received from the other health care providers and ensure that patient and family caregivers are mentally prepared to receive the information. The information should be provided in small chunks and the physician should ascertain the comprehension of the information provided. The use of ambiguous and jargon language should be best avoided. It is important for the physician to elicit patient’s fears, concerns and expectations and know the level of detail of the information preferred by patients and caregivers before communicating. During communication, the physician should emphasize the uncertainty and unreliability of the prognostic predictions and should acknowledge the difficulty of living with this uncertainty.

The physician should try to provide honest and realistic information and should be able to identify and manage the impact of information shared. Emotional reactions ensuing following prognostic communication should be acknowledged and handled with empathetic statements. The physician should refrain from making promises that cannot be delivered or inconsistent with the clinical evidence. Rather an attempt must be made to foster openness in communication and consistency in information provided. Patients and families should be reassured about the support they will receive throughout the trajectory of illness, symptom control measured offered and emphasize on what best can be done in this given situation. This will facilitate reframing patient and family expectations and setting up realistic goals of management and avoids unrealistic hopes.

Prognostic communication should include information about any cessation or changing of disease specific treatment. The physician should be clear about the benefit versus burden of treatment, goals of further management and specifically what outcomes may be achieved and how it can be achieved. The physician should be proactive about enhancing quality of life and should discuss potential adverse effects, complications, and cost of the treatments so that the patients can make an informed decision about their further care within the context of goals of treatment.

During the prognostic communication patients and families may ask the physician about the life expectancy or “how long” question. The physician should explore the need for the answer and pose a self-reflective question to patients asking them about how things have been going over the several weeks or months and what changes they have noticed. The physician

should explain the challenges involved in making the survival predictions and its unreliability. The physician should refrain giving exact time frame but provide range of time frames like days to weeks, weeks to months or chance of being alive at, etc.

Communicating prognosis could also lead to questions about future symptoms and its management. The physician should explore any fear or misconceptions about symptoms occurring at end of life and should reassure families about the appropriate strategies for managing difficult and refractory symptoms at end of life.

At the end of meeting check understanding of patients and caregivers about the information provided and summarize the discussion. The patients and caregivers should be given an opportunity to ask questions and revisit this topic should they need more information.^[12]

Discussing modalities and negotiating goals of care

When discussing modalities of care physician should discuss both disease centered and person-centered metrics. Disease centered metrics deal with modalities of care pertaining to illness, what can be done and what cannot be achieved. The person-centered metrics deals with personal sense of what brings greatest meaning and value to the patient's life and how quality of life can be enhanced. Therefore, an attempt should be made to elicit patient's preferences, wishes and goals of care and should be documented in the medical records for any future references. When negotiating goals of care, physician should identify the trajectory of illness and the trajectory of goals as these may be different. The important aspect of negotiating goals of care is to align the trajectory of illness with the trajectory of goals of treatment as it may facilitate a realistic hope and a realistic goal of management. Therefore, language of negotiation is very important as an inappropriate language of negotiation may disrupt the entire process of care during last hours and days of patient's life. For example, questions like "do you want to do everything possible" and "do you agree to discontinue aggressive treatment" can be reframed as "what can we do to enable patient to live as comfortably as meaningful as possible" and "we will focus on patient's comfort and ensure that patient's get appropriate treatment for the situation". During negotiation of goals of care nonmedical goals should also be explore like the preferred place of care/death, caregiver availability, finances, logistics of caring at home and travel, etc. The discussion of limitation of potentially inappropriate treatment should not be end as no further treatment but rather continue as what other modalities of care can be offered. The physician can discuss about future care option with quality of life metrics in play and referral to palliative care/symptom control services, hospice care or home care that is most contextually suited.^[13]

Shared based decision-making on end of life care in end stage kidney disease

Shared decision-making is poorly integrated with CKD care and that many CKD patients are inadequately prepared for either living with CKD or dealing with end of life issues.^[14]

From the physician's perspective, decision-making on end of life care has two aspects. Whom to initiate, i.e., the appropriate patients and when to initiate, i.e., timing and situations surrounding the initiation. However, the patient's and families need to have a same understanding about the illness and prognosis before the physician can initiate the next steps. It can be achieved by conducting a family meeting where the purpose is to achieve a shared understanding of illness trajectory and prognosis. During the process of shared decision-making, the physician should explore the preferences, expectations, and values system of patients and families and understand their decision within the sociocultural context. However, physician should make recommendations on the current clinical situation and try to establish a plan of care that is mutually acceptable. There may be times the recommendations made by the physician may not be acceptable and there must be scope for revisiting the discussion through subsequent family meetings. If there is a persisting conflict situation that could compromise the well-being of the patient it should be referred to the hospital clinical ethics committee.^[5]

Ensuring consistency in treatment goals through family meeting

The family meetings are a good platform for information sharing, clarifying goals of care and opportunities to ask questions, address issues, and agree upon strategies of care. It can ensure consistency among the caregivers as all the family and nonfamily caregivers involved in patient decision-making will be invited to participate in the family meeting. The physician who is leading the family meeting should have the complete knowledge about the patient's illness and should have some basic skills in therapeutic communication. The physician should prepare the family for a family meeting and a social worker in the team can facilitate the meeting and ensure participation of all the decision makers. The meeting facilitator should clearly state the location and timing of the meeting. The physician can request other health care providers if he/she feels that their presence is important to answer some questions relating to care of the patient. The meeting should start with a brief round of introductions and physician clearly explaining the purpose of the meeting. The physician should explore what families already know about the current clinical situation and identify the information needs. The specific objectives of the family meeting should be sensitively addressed and the physician should summarize the outcomes of the family meeting to the family.^[15]

Documentation of the care

The decisions surrounding recognizing medical futility, considerations of cessations of potentially inappropriate therapies and medication, process of obtaining physician consensus, communication of prognosis, family meeting, limitation of life-sustaining treatment, and the discussions underpinning these decisions should be documented in the medical records in a transparent manner. During documentation, the physician should state who were present during the discussions, what decisions were made, who these decisions were conveyed and how it will be implemented.^[15]

Limitation of life-sustaining treatment

Limiting life-sustaining treatment entails withholding or withdrawing cardiopulmonary resuscitation measures where continuing life-sustaining measures is considered to be potentially inappropriate or deemed medically futile.

The ICMR defines withholding of a life-sustaining treatment as “On a background of terminal illness, a decision made not to initiate or escalate a life-sustaining treatment, where the patient’s chances of survival after initiation or escalation of life sustaining treatment, is poor, with the burden outweighing the possible benefit, and the fully informed patient or if the patient is incompetent, a surrogate on behalf of the patient, chooses not to initiate or escalate the life-sustaining treatment.”^[7]

The ICMR defines withdrawing of a life-sustaining treatment as “On a background of terminal illness, a decision made to cease or remove a life-sustaining intervention presently provided, where patient’s chances of survival with continued life sustaining treatment is poor with the burden outweighing the possible benefit and the fully informed patient or if the patient is incompetent, a surrogate on behalf of the patient, chooses to cease the life-sustaining treatment.”^[7]

Limitation of life-sustaining treatment can be implemented by following steps

- The medical futility should be ascertained and the decision on medical futility should be made by the primary treating team
- Decision of medical futility should be endorsed by two independent specialists of the same specialty not directly involved in the care of the patient
- A family meeting should be held to apprise the current clinical status, communicate prognosis and consent for withholding/withdrawing life-sustaining treatment
- If palliative care services are available, a referral should be made. The family should be informed before initiating the decision of withholding/withdrawal. The process of withholding/withdrawing should be carried out sensitively ensuring maximal symptom relief and comfort during and after the process.

Providing end of life care in last hours and days

Symptoms in patients actively dying should be assessed frequently and at least once. The international collaborative for the best care of the dying has created an integrated care plan for the dying which has symptom checklist and assessment guidance for managing symptoms at end of life. The initial assessment has a detailed symptom checklist and the ongoing assessment is a brief symptom checklist assessed every 4 h. Any variation in the symptom management is recorded and corrective action is immediately taken.^[16]

The symptoms must be anticipated and an anticipatory PRN (SOS) prescription has to be documented in the medical case records to facilitate uninterrupted symptom relief at end of life. This exercise ensures that essential symptom-relief

medications are procured and available and needless delays are avoided.^[17] Moreover, medications and doses of the medications prescribed for symptom control should be based on careful evaluation of patient symptoms. The doses of medications should be proportional to the patient symptoms and response to treatment should be frequently assessed. The physician should always write a PRN (SOS) order for symptom management along with round the clock medication and can be liberal with the frequency of PRN (SOS) drug used. The parenteral route for administering medications for symptom management must be considered as the patient may not be able to take oral medications.^[18] Often syringe drivers are used in the last hours of life to ensure continued relief of symptoms by providing round the clock symptom control medications as an continuous subcutaneous or intravenous infusion.^[19]

Symptoms during the last hours and days of life include excessive fatigue, breathlessness, pain, and restlessness.^[20] A systematic review showed that fatigue/tiredness 71% (12%–97%), pruritus 55% (10%–77%), constipation 53% (8%–57%), anorexia 49% (25%–61%), pain 47% (8%–82%), sleep disturbance 44% (20%–83%), anxiety 38% (12%–52%), dyspnoea 35% (11%–55%), nausea 33% (15%–48%), restless legs 30% (8%–52%), and depression 27% (5%–58%).^[21] There is a slight variation of symptoms in the last hours and days as patients may experience more of fatigue, respiratory secretions, breathlessness, and delirium/restlessness and less of nausea, pruritus, and pain.

Fatigue is a very common symptom throughout the trajectory of ESKD. Occasionally interventions are made but in the last days of life, it is usually a matter of explanation to patients and families that fatigue is a normal, indeed universal, part of the deteriorating phase of the illness.^[22] Although medications like Megestrol Acetate, Modafinil, and Cannabinoids can be tried, their effectiveness is yet to be established. Respiratory secretions are common during last hours and days and it is seen in approximately 50% of dying patients. It is caused by air passing through the airway pooled with the secretions which the patient is unable to clear. The presence of respiratory secretion is a strong predictor of death and 48% and 76% of patients die within 24 and 48 h of onset of respiratory secretion. They may not be distressing to the patients. However, it may cause a concern among the family caregivers. Majority of these secretions are bronchial that the patient is unable to cough out and suctioning may not help and may be unpleasant for the patients as it can induce gag reflex. Preventing aspiration and placing the patient in a lateral recumbent position with head elevation encourages drainage of secretions, maintains airway and prevents poolings. Among pharmacological management, hyoscine hydrobromide and glycopyrrolate can be used. Atropine is best avoided as it can cross blood brain barrier and induces delirium. The recommended medication is glycopyrrolate at a dose of 0.2 mg PRN to 0.8–1.2 mg/day as a continuous infusion.^[23] Breathlessness is a common symptom in and any correctable

cause should be identified and corrected. Oxygen is helpful only when hypoxemia is present. Nonpharmacological management strategies like blow of fan air on the face may improve sensation of breathlessness. Incremental low doses of opioids, especially morphine helps to relieve sensation of dyspnea. Great care must be shown in using morphine in CKD. Morphine metabolites are renally excreted in CKD so morphine must be prescribed extremely carefully, in low doses and with wide separation of dosing. Opioid doses range from 1 to 2.5 mg oral morphine or 1 mg subcutaneous morphine given intermittently and PRN (SOS). However, if patient has associated pain then patient may require higher doses. If the patient has associated anxiety along with breathlessness, then a small dose of a benzodiazepine like midazolam 1 mg PRN (SOS) may be helpful.^[24] Pain in end-stage kidney disease can be managed using fentanyl as it has no metabolites and only 10% of the drug is excreted through the kidney unchanged. Fentanyl is the recommended analgesic provided the doses are titrated carefully and toxicity is monitored. Fentanyl can be administered as a continuous intravenous or subcutaneous infusion and in a home setting a transdermal preparation can be used. The other analgesics that can be used in end-stage kidney disease are buprenorphine and methadone. Buprenorphine transdermal preparation has its challenges due to partial agonist/antagonist action and ceiling effect. Methadone can be used in patients with severe renal failure. However, it requires expertise in dose conversion and titration due to potential cardiac adverse effects. Morphine can be used as an analgesic, especially in those who are breathlessness. However, physician should closely monitor for respiratory compromise and neurotoxicity as morphine metabolites M3G and M6G accumulate in patients with decreased creatinine clearance.^[24] In patients with restlessness/agitation, typical anti-psychotic, i.e., Haloperidol is the recommended medication. Haloperidol can be used at a dose of 0.5–5 mg initially and doses titrated up according to response and toxicity. It can be administered intermittently or as a continued infusion. Haloperidol has a better safety profile and can be administered parenterally.^[25] In patients with refractory symptoms an attempt is made to lower the consciousness intentionally using a titrated and monitored dose of nonopioid drugs to relieve distress of symptoms. It is known as palliative sedation and commonly drugs like midazolam and phenobarbitone are used.^[26]

After death care in end stage kidney disease

After death care is providing sensitive and culturally appropriate care after the death of the person. It involves communication of the death to the families in a respectful and sensitive manner, providing privacy and space to the family, show sense of support to the family, respect the culturally appropriate requests of the family, early verification and certification of death and ensuring timely dignified transfer of the deceased person from the hospital.^[27]

Bereavement support in end stage kidney disease

All families should receive bereavement phone call 2 weeks

after patient's death. Families identified as at risk during the bereavement phase should receive intensive follow-up. Bereavement support is generally provided by social workers or counselors. Family members manifesting with complex grief reactions should be referred to psychiatry support services for psychotherapy and pharmacotherapy.^[28]

Review of the care process in end stage kidney disease

The purpose of review of the care process is to know and understand whether the care process was complete and if there were any gaps. The purpose is also to whether the family received adequate health related communication, understood, and accepted the care process. It also helps in knowing the family satisfaction of care and the improvements required in end of life care process for the subsequent patients.

CONCLUSION

1. It is a consensus opinion statement of renal and palliative care physicians on providing end of life care in end-stage kidney disease
2. It provides a guidance to renal physicians in end of life care to end-stage kidney disease patients.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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