



Clinician Perspectives: Exploring Adverse Childhood Experiences of Patients with End-Stage Kidney Disease

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ABSTRACT

The healthcare field has become increasingly aware that adverse childhood experiences (ACEs) are connected to long-term health concerns, such as end-stage kidney disease (ESKD). These concerns, caused by health risk behaviors, result in an increased mortality risk for persons with exposure to ACEs. The present qualitative exploratory study utilized semi-structured interviews to investigate how 24 nephrology clinicians addressed adherence challenges with patients who had a history of trauma or ACEs. It evaluated clinician knowledge, perceived competency, and attitudes regarding the use of trauma-informed care (TIC) practices. No study participant conducted a formal assessment for ACEs. Trauma was a barrier to patient adherence, and the different approaches among clinicians were related to adherence and whether patients were known to have a history of ACEs or trauma. In addition, clinicians had limited-to-no knowledge of TIC. They were interested in incorporating TIC into their nephrology practices. This study provides new insights into the methods by which nephrology clinicians assessed and addressed ACEs or trauma in patients with ESKD, and their attitudes, perceived competence, and knowledge regarding TIC practices. Further, this research study provides practice implications which include formalized trauma assessments, interdisciplinary training on TIC practices, and a shift in social work practices and responsibilities in nephrology.

KEYWORDS: ACEs; adverse childhood experiences; chronic kidney disease; CKD; end-stage kidney disease; ESKD; qualitative research; TIC; trauma-informed care

INTRODUCTION

The ninth leading cause of death in the US, chronic kidney disease (CKD) affects approximately 35.5 million persons (Centers for Disease Control & Prevention [CDC], 2024a, 2024b). Patients with end-stage kidney disease (ESKD) are at increased risk of death because of mental health challenges and health risk behaviors, such as adherence issues with fluid restrictions, hemodialysis, and medications (Ozen et al., 2019; Ozieh et al., 2020; Tsur et al., 2019). About one-half of patients with ESKD who receive dialysis are described as non-adherent, and as many as 52% of patients with ESKD also have a psychiatric disorder, which make effective care challenging for nephrology physicians (Baines & Jindal, 2000; Clark et al., 2014; Leggat et al., 1998). Persons with ESKD are at greater risk of mental health diagnoses than any

other group with chronic health issues (Chironda & Bhengu, 2016). Furthermore, patients with ESKD who have mental health issues are at increased risk for death and are more likely to struggle with adherence challenges (Ozieh et al., 2020). Despite the awareness that death, health risk behaviors, and mental health have crucial effects on patients with ESKD, a considerable gap continues in the literature of the potential ramifications that preexisting issues, such as adverse childhood experiences (ACEs), have on these patients.

In the US, adverse childhood experiences (ACEs) have been correlated empirically with long-term mental and physical health conditions in adulthood. ACEs are defined as childhood exposure to traumatic experiences between birth and 17 years of age (CDC, 2021; Felitti et al., 1998). ACEs include potential exposures to traumatic experiences in childhood

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due to abuse (i.e., mental, physical, emotional, or sexual abuse), neglect, exposure to violence in the home or community, parent or caregiver chemical misuse, loss of a parent due to suicide or incarceration, or parental mental health concerns (CDC, 2021). The CDC and Kaiser Permanente performed a landmark investigation of the connection between ACEs and development of chronic health conditions later in life (Felitti et al., 1998). Felitti et al. (1998) found a strong correlation between chronic health conditions, health risk behaviors, and the number of ACEs. As the ACE number increased, the likelihood also increased for health risk behaviors, such as smoking, alcohol or drug misuse, poor diet, and lack of healthcare due to prolonged exposure to traumatic experiences. The health risk behaviors resulted in a greater risk of a chronic health condition, such as diabetes and kidney disease, but more significantly, increased risk of death.

Ahmadi et al. (2016) illustrated that persons with various chronic health conditions who had four or more ACEs were 52% more likely to die prematurely than persons not exposed to an ACE. By comparison, Campbell et al. (2019) determined that people who had a history of ACEs and the diagnosis of diabetes were at a 132% higher risk of death than those who did not have diabetes and ACEs. Though the investigators acknowledged that persons with a diagnosis of diabetes and no ACE were at greater risk of death than persons with no diabetes alone or ACEs alone, those with cooccurring diabetes and ACEs were at greater risk of mortality (Campbell et al., 2019).

In comparison, Ozieh et al. (2020) observed that persons with decreased renal function and ACEs had 2 times the mortality risk of persons with no ACEs and no decreased renal function. Interestingly, Ozieh et al. reported that, alone, reduced renal function or ACEs were statistically significant connections to increased mortality rates compared to those who did not have ACEs and reduced renal functioning. Although ACEs have been recognized as resulting in long-term health risk consequences and increased mortality rates, more attention is needed to the effect of ACEs by clinicians in the healthcare setting, and specifically by nephrology clinicians.

Awareness About ACEs in the Practices of Healthcare Clinicians

Various studies have explored clinician knowledge and practices pertaining to ACEs in various healthcare settings. However, there is no current literature that explores nephrology providers' knowledge and practices associated with ACEs. Nevertheless, the literature suggests that clinicians are the best-equipped practitioners to assess, intervene, and provide treatment for persons exposed to trauma. However, a lack of screening, knowledge, and awareness about ACEs continues in these care settings (Bora et al., 2021; Green et al., 2011; Kalmakis et al., 2017; Lynch et al., 2013; Maunder et al., 2020). According to Bora et al. (2021), only 2.8% of primary care clinicians were familiar with ACEs, and 2.8% of clinicians formally screened for ACEs. Similarly, Kalmakis et al. (2017) determined that 68% of primary care nurse practitioners either never or rarely screened patients for ACEs. By comparison, Bright et al. (2015) discovered that at least 50% of pediatrician study participants screened caregivers, children, and adolescents for ACEs because they recognized the effect that trauma can have on children. Many studies found a lack of screening for ACEs, which was associated most with clinicians' lack of knowledge and training about ACE's effects (Bora et al., 2021; Green et al., 2011; Kalmakis et al., 2017; Lynch et al., 2013; Maunder et al., 2020).

Green et al. (2011) put forth that most primary care clinicians in their study did not assess for trauma despite working with an impoverished community. These clinicians reported that they felt uncomfortable assessing for trauma due to inadequate training, feared upsetting a patient, or were uncertain about how to address trauma disclosures. Similarly, Kalmakis et al. (2017) reported that primary care nurse practitioners identified (1) a lack of time; (2) discomfort about asking patients sensitive trauma questions; and (3) concern with re-traumatization of patients as the reasons they did not screen for ACEs. Further, when asked about training or formal education related to ACEs and trauma, 48% of nurse practitioners in their study identified no formal education on ACEs or TIC. By comparison, Maunder et al. (2020) discovered that their sample of primary care clinicians and other medical specialty participants never or rarely assessed for ACEs because of the lack of training, time, and access to mental healthcare providers, and a fear of upsetting patients.

The increased recognition in various health settings of the effects of ACEs on chronic health conditions is a step in the right direction. Even in these settings, a knowledge gap continues, though it is important to assess patients and caregivers for trauma. In addition, with the prevalence of chronic health conditions, such as ESKD, experts recommend that all healthcare clinicians, including nephrology practitioners, recognize the effect of ACEs on patients and how these effects can be addressed in all healthcare settings. Despite this recognition, there continues to be a gap in the literature on the impact of ACEs on patients with ESKD and how they may affect treatment adherence.

To address this gap in the literature, we conducted a qualitative study utilizing semi-structured interviews to explore how nephrology clinicians (i.e., nurses, social workers, nephrologists, midlevel providers [nurse practitioners and physician assistants], and dietitians) address adherence and adherence challenges with patients who have a history of trauma and ACEs. This study explored the current knowledge, competency, and attitudes of nephrology clinicians regarding the use of TIC practices. These skills are imperative for nephrology clinicians to assess and treat patients with ESKD who have had ACEs, to reduce mortality rates and adherence issues, and to improve patient health outcomes.

METHOD

This qualitative exploratory study utilized semi-structured interviews to investigate how nephrology clinicians in dialysis clinics and hospitals in the US Midwest have addressed adherence challenges with patients who have ESKD and a history of ACEs (adverse childhood experiences). Additionally, we intended to elicit their current knowledge, perceived competency, and attitudes regarding the use of trauma-informed care (TIC) practices. A qualitative thematic analysis was important to this study because qualitative research explores a phenomenon not yet investigated in depth (Padgett, 2017). Thematic analysis allows for flexibility and a deeper understanding and increased knowledge of the experiences of nephrology providers related to their practices with patients with ESKD and ACEs, as well as TIC (Maguire & Delahunt, 2017). The following research questions guided the study:

- 1. How do nephrology healthcare providers treating ESKD patients address adherence/adherence challenges with patients who have histories of ACEs/trauma?
- 2. What are nephrology providers' knowledge, perception of competency, and attitudes regarding the implementation of TIC with ESKD patients?

Protection of Human Participants

For the protection of the human subjects, this research was approved by the Mayo Clinic and the University of St. Thomas' Institutional Review Board (IRB). No identifying participant information was shared in the findings, and only the researcher had access to participant information. To protect participants, they were provided with study identification numbers instead of utilizing their names. Further, no additional identifying information was collected. All information collected, including audio recordings, consent forms, and handwritten documentation, was converted into electronic form and placed on a password-protected computer, only accessible to the researcher. In the dissemination of the findings, only words or partial sentences were disclosed.

Participants

Through the use of non-probability, purposive sampling, study participants were employed at Midwestern US clinics and hospitals and had specific nephrology knowledge of and experience with providing care to ESKD patients. First, a criterion for study eligibility was working in a clinic or hos-

pital where the study was conducted. Second, participants were a part of the required Centers for Medicare & Medicaid Services (CMS, 2008) interdisciplinary team who work with the ESKD population. Third, they needed to speak English because no interpretative services were available for the study. Fourth, participants were willing and able to consent to study participation. Fifth, the ability to participate was limited to clinicians working with the ESKD population in nephrology departments, a criterion because of the required interdisciplinary model approach to the care of patients. No other form of CKD (stages 1-5) requires that all providers participate in patient care. Clinicians consented to participate when they signed up for the study and consented verbally before the study interviews. Participants were notified that they could refuse participation before and after the start of the interview.

Data Collection

Through a non-probability, purposive sample, participants were recruited by email invitation to participate in the study's interview process. The recruitment email was sent to 135 nephrology clinicians who worked both with patients who had ESKD and at the designated Midwestern clinics and hospitals. Participants then received an email with a survey and the informed consent documentation for participation. Those who consented to participate completed an online pre-interview survey that collected demographic information and provided information to set up the semi-structured interview. The one-on-one semi-structured interviews were completed through Zoom (Zoom Video Communications, Inc.) or in person, depending on participant preference. Data collection occurred between March 17 and April 17, 2021. Twenty-four nephrology clinicians consented to participate in the study and completed one-on-one interviews with the researcher.

An interview guide was utilized, and participants were asked nine open-ended questions with potential probing questions, depending on the participant's response to the initial questions. The interview guide included questions to elicit participants' experiences and thoughts: (a) Describe ESKD patients who are identified as nonadherent; (b) How patients are assessed for trauma; (c) Perception of the impact that trauma has on ESKD patients; (d) Does the knowledge that a patient has a ACE or trauma affect their treatment approach?; (e) Perception of the impact that trauma has on adherence in ESKD patients; (f) What do they know about TIC practices?; (g) Perception of TIC practices in caring for ESKD patients; (h) Perception of the connection between interdisciplinary TIC practice and its impact on adherence outcomes for patients; and (i) Any additional thoughts to share?

The questions were chosen to explore the knowledge, practices, and approaches that nephrology providers utilize when working with ESKD patients with had a history of trauma and struggle with adherence issues. Further, multiple questions were constructed to investigate the current knowledge, competency, and attitudes of these nephrology providers regarding the use of TIC practices. It should be noted that, while the sample sizes per discipline do not appear to be large, the overall sample size was larger, encompassing all the CMS-required providers in the care of ESKD patients, and provided rich data. Though there were various disciplines included in the sample, redundancy of information collected by all participants was consistent and no further sampling was deemed necessary by the researcher, co-coder, and research advisor.

Data Analysis

The transcription began within days of the completion of the interviews. The researcher listened and relistened to the interviews, which were deidentified, transcribed, and read and reread word for word. Each participant received an identification number. The transcripts were entered into a software program (NVivo; QSR International); the researcher and a co-coder individually initiated the coding process and utilized consensus coding to achieve interrater reliability. A cocoder, who does not work in the healthcare field, was utilized to minimize researcher bias, and to bring a fresh perspective to the analysis. Open coding was completed by identifying keywords and phrases which were discovered within the transcripts and color-coded in NVivo software. The colorcoded codes were placed into categories which broke down each code into related groups to help organize the data. Out of the categories, themes and subthemes emerged from the data. The researcher and co-coder explored identified codes and discussed each of the codes from the data, finding areas of similar coding and differences. Inconsistencies of the identified codes and emerging themes were resolved between the researcher and the coder. The researcher and co-coder employed a reflexive thematic analysis approach, which focused on comprehensive and detailed engagement with the data utilizing reflexive practices (Braun & Clarke, 2019).

RESULTS

The present study recruited 24 nephrology clinicians comprising medical doctors, midlevel providers (i.e., nurse practitioners and physician assistants), dietitians, social workers, and nurses. Their median age was 40 [23–64] years; IQR (interquartile range) was 19.5. Participants median years of experience was 13 years and IQR was 8 (see **Table 1**). Analysis of the interviews yielded five themes: (1) no formal assessments for ACEs or trauma were conducted; (2) trauma was seen as a barrier to adherence; (3) approaches to adherence differed and knowledge of patient history of ACEs or trauma varied; (4) limited to no knowledge of TIC existed; and (5) interest reported in incorporating TIC into their nephrology practices (see **Table 2** for themes, subthemes, and representative quotes). Below provides the results of the interviews with nephrology clinicians.

Assessment for ACEs or Trauma

Not performing formal assessments for ACEs or trauma emerged as a theme; no provider completed formalized assessments. Most of the participants stated that they did not formally assess for ACEs due to lack of education or they felt it was not in their role to assess for ACEs and relied on the social workers to complete the screening assessments. The results capture that the non-social work nephrology healthcare providers relied on the social workers to address ACEs and trauma, though the social workers also expressed they did not formally assess patients for ACEs.

A subtheme emerged in 44% of participants who identified that, though they did not formally assess for ACEs, they did informally inquire with patients about ACEs. Four of the five social workers inquired with patients about ACEs, but were hesitant due to what the potential impact may have been to the patient and resurfacing past trauma. The providers who inquired informally about ACEs, including the social workers, expressed hesitation due to the lack of training and education. Additionally, participants' approaches varied in how they informally inquired with patients about trauma. This appeared to be associated with whether patients first disclosed they had a trauma, and providers' comfortability and knowledge associated with ACEs/trauma. Providers' comfortability also seemed to be a central theme in the data, as it was connected to lack of knowledge and education about assessment for ACEs/trauma.

Effects of ACEs and Trauma

A theme that emerged from the data was that all 24 of the providers (100%) reported that ACEs/trauma likely affected adherence in some ESKD patients. The provider participants reflected on their work with patients who they were aware had experienced trauma and were able to identify specific examples of patients who struggled with adherence to treatment and how it was connected to past trauma. Interestingly, the data provided evidence that, though participants did not engage in formally assessing patients for ACEs or trauma, they had an awareness of some ESKD patients with who presented with trauma and the connection it had to adherence to treatment recommendations.

Further, all the provider participants identified that they would change how they approached adherence challenges if they were aware that the patients had a trauma, recognizing its impact. Each participant identified that they would be gentler in their approach and discussions with ESKD patients with trauma if

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they knew that the patient had experienced childhood trauma. However, three of the participants identified that they would need to know that the trauma was continuing to impact the patient's life. The data makes evident that even though participants did not formally assess for ACEs, they recognized that childhood trauma significantly affected nephrology patients and its connection to health-risk behaviors and treatment adherence challenges.

Knowledge of Trauma-Informed Care (TIC) Practices

Another theme that emerged was participants having limited or no knowledge of TIC practices. Of participants, 18 (75%) reported no knowledge or education on TIC practices. Most of the providers identified that they lacked knowledge of TIC practices, except four social workers, two nurses, and one nephrologist, but also recognized its importance, which is discussed in the next section. Further, many participants with no knowledge of TIC expressed the belief that this was a skill set of the social workers, and they relied on them. This concept coincides with providers identifying that they relied solely on the social workers to complete assessments for ACEs and trauma. However, seven of the participants identified limited knowledge of TIC, with four of the seven being social workers. The participants that expressed limited knowledge of TIC had a basic understanding of the practice, but also identified that there were gaps in their knowledge. This is an important concept, as social workers are seen as the "experts" on TIC practices by some of the participants, while having limited knowledge of the subject themselves.

Trauma-Informed Care (TIC) Implementation into ESKD Practice

A theme identified was that most of the providers believed that TIC vs. trauma-informed care practices should be utilized, but many believed that education was necessary to do this. Twenty-one of the 24 clinicians expressed that TIC should be integrated into an interdisciplinary approach to care for ESKD patients, though their own knowledge of it was either nonexistent or limited. Three of the 21 participants who believed that TIC should be implemented for the ESKD population also believed it was appropriate only after education to best develop the skills and tools to help patients with trauma, which 17 of the 21 clinical providers expressed interest in receiving education on TIC, 4 were not sure due to their lack of knowledge on TIC. However, three clinicians questioned whether TIC should be implemented with this population. This stemmed around the uncertainty related to TIC practices as an intervention that may result in providing advanced mental health treatment for patients due to their lack of understanding of TIC.

The present study is the first, to the author's knowledge, of methods used by nephrology clinicians in interdisciplinary teams to address adherence and adherence challenges with ESKD patients who have a history of ACEs or trauma, as well as the clinicians' perceived competency, knowledge, and attitudes regarding TIC practices. This qualitative study showed that all participants recognized that a history of ACEs or trauma likely affected adherence of patients. Participants would also change their approaches to treatment and the discussion of adherence issues with patients who have an ACE or trauma. Results showed that no participant formally assessed patients for ACE or trauma; however, less than one-half (44%) of participants identified informally assessing patients for ACEs or trauma. Further, all study participants reported that they had limited to no knowledge about TIC. Yet, most (92%) said that TIC practices should be implemented.

The findings of this study present similarities with previous studies that explored healthcare clinicians' knowledge and practices related to ACEs or trauma in other patient populations. These results support earlier findings that there continues to be a lack of the use of formal ACE/trauma assessments by nephrology clinicians. This study, however, reported that none of the interviewed clinicians formally assessed patients for ACEs or trauma, compared with other studies that identified at least a percentage of clinicians who screened patients formally for ACEs/trauma.

The present study differed from others because 44% of the 24 participants said that they informally inquired with patients about ACEs/trauma. Other studies focused merely on formal assessment for ACEs (Bora et al., 2021; Green et al., 2011; Kalmakis et al., 2017; Lynch et al., 2013; Maunder et al., 2020). This study's outcomes add to the knowledge base that, while some clinicians may not formally screen for ACEs or trauma, they may be informally assessing patients for this history.

The study results support the literature that clinicians reportedly recognize the effect that history of ACEs or trauma have on patients and adherence. As in other studies, however, clinicians did not have knowledge and training related to ACEs and TIC. The clinicians in the present study felt uncomfortable because of this, as well as the fear of upsetting patients. This study also found that, among its participants, all social workers had either limited to no knowledge of TIC practices, and they desired to have more training and knowledge to better assist patients. This result contrasts with the study by Maunder et al. (2020), that found physicians in primary care and other specialties felt uncomfortable in assessing for ACEs, but psychiatrists routinely performed the formal assessments for ACEs because they understood their effect on patients' health. This result is important because the other interdisciplinary team members in this study assumed that social workers were the ones with the most training and expertise to assess ACEs/trauma and had knowledge of TIC practices.

Training was deemed something that most participants would find beneficial. Green et al. (2011) observed that primary care providers identified a strong desire for formal training related to trauma and its treatment, and advocated for mental health clinicians, including social workers, to be on-site to aid in the support of and interventions with patients having trauma. Likewise, Bora et al. (2021) found that 90.3% (n = 65) of clinicians had no training on ACEs or TIC and believed that training would be beneficial to implementing trauma practices into their care of patients.

Although social workers in the present study generally had more knowledge of informal assessment for ACEs and trauma, they expressed a need for more training and expertise on TIC practice. This finding is important because the interdisciplinary team (and the literature) suggested a strong desire to have access to social workers and mental health providers who could intervene with patients who have a history of ACEs or trauma. However, this raises the question, "Who is accountable and responsible for formally assessing and intervening with patients who have an ACE or trauma?"

Implications for Practice

This study provides new insights into the methods by which nephrology clinicians assessed and addressed ACEs or trauma of ESKD patients, and their attitudes, perceived competence, and knowledge regarding TIC practices. Currently, no best practices are related to methods used by these clinicians to assess and intervene in the care of ESKD patients with ACEs/trauma. Therefore, formalized screening of these patients needs standardization. The results support recommendations that, similar to all healthcare clinicians, nephrology clinicians be aware of the importance in screening for ACEs or trauma and be trained and knowledgeable about the corresponding care practices to best serve their patients. If nephrology clinicians receive no training and are not knowledgeable in these areas, patients will continue to be put at increased risk for poor outcomes or premature death because of health risk behaviors, such as nonadherence.

Nephrology clinicians caring for ESKD patients are at a distinct advantage, given the interdisciplinary approach and access to qualified masters-level social workers. Social work practitioners are best equipped to intervene and connect patients to mental health resources to address the personal and health challenges of ACEs and trauma. However, should social workers be the only clinicians assessing for ACEs or trauma in the interdisciplinary ESKD team? The author concludes that all nephrology clinicians on the team have a responsibility to assess patients for ACEs/trauma, and social workers should conduct a formal assessment for ACEs/ trauma routinely. This step requires a paradigm shift in the use of nephrology social workers because many social workers are responsible for tasks not related to mental health (e.g., insurance, transportation, unit transfers) (Brown, T., et al., 2014) . Further, all nephrology clinicians should be trained in TIC practices. These steps connect to the study's findings that the clinician participants desired training in TIC practices for patients.

Limitations

This qualitative study cannot be generalized to the population of ESKD nephrology clinicians because its 24 participants were from an interdisciplinary team and were limited to mainly White participants from Midwestern US clinics and hospitals. The intent of the author was exploratory, and the study provided rich data and information that may have been lost in a quantitative study. Another limitation was that the author has been a clinical social worker in nephrology. Therefore, researcher-induced bias due to previous practice and perspectives may have affected the study.

CONCLUSION

The effects of ACEs/trauma on persons with chronic health conditions require the attention of all healthcare providers. The ESKD population has a high level of adherence concerns and increased mortality risk, and nephrology clinicians need to be aware of their effects on patients' health and well-being. In the present study, the clinicians recognized that ACEs/ trauma likely influence patients and that TIC practices would be beneficial. However, participants identified a lack of formalized education to assess for trauma and to practice TIC. Interventions by nephrology clinicians could address the biopsychosocial issues related to past trauma of patients. A TIC approach would provide support, safety, and collaboration for patients and may prevent poor outcomes/premature death.

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Data Availability

The data underlying this article will be shared on reasonable request to the corresponding author.

Author note: Tiffany A. Breckenridge is an Assistant Professor at Minnesota State University.

Table 1. Characteristics of 24 Study Participants

Characteristic	Value ^a
Age, y (n = 21)	
Median	40
IQR	19.5
Practice Experience (n = 21)	
Median	13
IQR	8
Professional title	
Nurse	10
Social worker	5
Physician	4
Dietitian	3
Midlevel clinician	2
College education	24
Doctor of Medicine	4
Master of Social Work	5
Master of Science	4
Master of Management	1
Race ^b	
White	21
Other	2
Prefer not to say	1

a Values are expressed as number of participants unless specified otherwise.

b Choices for race were: American Indian or Alaska Native; Asian; Black or African American; Caucasian (White): non-Hispanic; Native Hawaiian or Pacific Islander; other; and prefer not to say. Under the "other" category, respondents identified as "Person of Color."

Table 2. Themes from Interviews with Nephrology Providers

THEME 1: Provider Assessment for ACEs

A. Informal Assessment for ACEs

Q1: "I do informally ask, but I think it's a fully loaded question that I asked them like, 'Do you have abuse neglect trauma history?' It's very vague, and I feel like we could be doing a better job at diving more into that." (Social Worker #4)

Q2: "Probably informally. Some patients share with me some of those things, then I'm fine [with assessment of the patient for ACEs or trauma]. But I really don't pry for a lot of it, just because I haven't had training in that area and don't feel comfortable." (Dietitian #1)

B. No Formal Assessment for ACEs

Q3: "I'll confess; I don't know how to ask. . . It's not that I can't discuss touchy issues because. . .I deal with lots of sensitive issues and end-of-life conversations. . .but with trauma, I just don't think to ask about it. And even if I thought about it, I don't know if I would know how to best do it..." (Nephrologist #2)

Q4: "...so, I think, mostly, it's informally through the social worker, somebody who's a little bit more trained..." (Dietitian #3)

THEME 2: Trauma as a Barrier to Adherenc

Q1: "I think that it has impacted patients and adherence... it's been eye-opening for me to take care of patients with childhood trauma and be told about it and see how badly they are struggling with their lives and their health..." (Nephrologist #3)

Q2: "Absolutely trauma impacts their treatment adherence. I'm not aware of any research on the connection of childhood trauma and renal function, but it makes complete sense..." (Nephrologist #1).

Q3: "Absolutely...an adult patient had a parent...and the patient was dependent on a parent for [sic] a caregiver. Growing up, the parent did not take care of the patient and the health issues. The neglect cost the patient their life..." (Nurse #7).

Q4: "I think you can anecdotally draw connections between...trauma and mental health and then also the ability to follow up on healthcare recommendations." (Social Worker #1)

THEME 3: Approach to Adherence/Trauma

Q1: "If I know somebody who's had some trauma in their past childhood, whatever it may be, I'd have to be respectful...I'd probably have to be a little more careful of how I spoke to them about the treatments..." (Nurse #2)

Q2: "Being aware of their trauma, I think you have a better understanding of the patient, and maybe the reasons why they're noncompliant...I think when I'm aware of it, it makes it a little bit easier for me to bring it up in an assessment or conversation with them." (Social Worker #5)

Q3: So, I do think that if I know of traumatic events, it does change the way I approach the patient, but I usually should try to...with everybody. I don't know why it's just trauma patients, but I usually do a gentler approach with them with questions and if they are noncompliant." (Midlevel Provider #2)

Q4: "It doesn't change unless they use certain keywords that make me feel it's a current problem or if it's affecting their treatment or compliance." (Nurse #4)

THEME 4: Limited/No Knowledge of TIC

Q1: "Zero. And to be honest, it would be nice to have some sort of class or in-service on it [trauma-informed care]." (Nurse #3)

Q2: "I have never actually heard that term, so, zero." (Nurse #6).

Q3: "Trauma-informed care? Is that something? I don't know what that is." (Nephrologist #2)

Q4: "When I think about trauma-informed care, I think I'm familiar with it. When I think about it, though, I think I probably could have more experience with it to help...our patients that are struggling the most." (Social Worker #1)

Q5: "I feel like it's limited...my general knowledge of trauma-informed care is just recognizing that trauma exists and acknowledging that this could and likely does impact where they are in today's world." (Social Worker #2).

THEME 5: Interest in Incorporating Trauma-Informed Care into Practice

Q1: "I think patients would see us not...just as 'my dialysis doctor'...that we really are trying to be holistic, and... that we care enough...to really try to help them." (Nurse #10)

Q2: "I think the patient would feel maybe more understood by their dialysis team. And maybe that communication would be more open, where they felt like they could... share...some of those bigger issues." (Social Worker #3)

Q3: "I think...it would be an improvement. I think one of the areas that would improve would also be...staff sometimes have trouble dealing with difficult people, and I think...some of that might be due to some of those trauma issues, and...it makes you more aware of it because I don't sometimes think people realize that...maybe these people do have that history." (Dietitian #3).

Q4: "So, it's a different way of talking to [patients]. We don't have that educational background. I probably had one class over my nine years of school...That is not enough. More education is needed." (Midlevel Provider #2).

Q5: "I don't know. I don't know that...there'd be anything specific to work on. It's probably going to take a lot of psychological intervention. I don't know that we're designed to do that or not." (Midlevel Provider #1)

Q6: "I think it would be beneficial for me and my staff to understand more about the impact of trauma. They do not offer trainings on trauma in general let alone trauma informed care." (Nurse #8)

Q7: "So I don't think we've had that trauma-informed training. So it's good to see. I would certainly be interested in training on this." (Dietician #2)

STANDARDS FOR REPORTING QUALITATIVE RESEARCH (SRQR)*

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		Page/ line no(s).
TITLE AND ABSTRACT	Title — Concise description of the nature and topic of the study Identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended	Pg. 3
	Abstract — Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions	Pg. 3
INTRODUCTION	Problem formulation — Description and significance of the problem/phe- nomenon studied; review of relevant theory and empirical work; problem statement	Pgs. 2-6
	Purpose or research question — Purpose of the study and specific objectives or questions	Pg. 6, (2 para.)
METHODS	Qualitative approach and research paradigm — Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., postpositivist, constructivist/ interpretivist) is also recommended; rationale**	Pg 6 (3rd para.)
	Researcher characteristics and reflexivity — Researchers' characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability	Pg 7 (1st para.)
	Context — Setting/site and salient contextual factors; rationale**	Pg 8 (1st para)
	Sampling strategy — How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g., sampling saturation); rationale**	Pg 9 (2nd para.)
	Ethical issues pertaining to human subjects — Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	Pg. 7 (para 3)
	Data collection methods — Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale**	Pg. 8 (para 2)
	Data collection instruments and technologies — Description of instruments (e.g., interview guides, questionnaires) and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study	Pg. 9 (para 2-3)
	Units of study — Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	Pg. 10 (para 2)

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	Data processing — Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/ de-identification of excerpts	Pg. 9 (para 3)
	Data analysis — Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale**	Pg. 10 (para 1)
	Techniques to enhance trustworthiness — Techniques to enhance trust- worthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale**	Pg. 10 (para 2)
RESULTS/ FINDINGS	Synthesis and interpretation — Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	Pgs. 10 -14
	Links to empirical data — Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Table 2 Pgs. 22-26
DISCUSSION	Integration with prior work, implications, transferability, and contribution(s) to the field — Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field	Pgs 14-17
	Limitations — Trustworthiness and limitations of findings	Pgs 17 (para 2)
OTHER	Conflicts of interest — Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed	Pg. 21, line 2
	Funding — Sources of funding and other support; role of funders in data collection, interpretation, and reporting	Pg. 21, line 1

*The authors created the SRQR by searching the literature to identify guidelines, reporting standards, and critical appraisal criteria for qualitative research; reviewing the reference lists of retrieved sources; and contacting experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research.

**The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and transferability. As appropriate, the rationale for several items might be discussed together.

Reference:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Academic Medicine, Vol. 89, No. 9 / Sept 2014 DOI: 10.1097/ ACM.00000000000388