

**Knowledge, skills, and attitudes of renal nurses working with patients undergoing  
haemodialysis who fear needles**

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### Abstract

Thousands of Australians living with end-stage kidney disease undergo haemodialysis at least three times per week to survive. The process involves the insertion and removal of two large needles into the veins of the arm each session. Although needle fear is common in patients undergoing haemodialysis, little research has been conducted that investigates appropriate strategies for minimising fear. Even less is known about how the renal nurses responsible for the insertion and removal of the needles work with fearful patients undergoing haemodialysis. Therefore, the focus of the present research is to identify the core knowledge, skills, and attitudes of renal nurses, and how they approach working with dialysis patients experiencing fear of needles. Seventeen pre-existing interviews with South Australian renal nurses were analysed via thematic analysis to explore the experiences of working with patients undergoing haemodialysis. Information was coded according to a competency framework, detailing thirty-six features of knowledge, skills, and attitudes (KSAs) of nurses regarding the management of patients' needle fear. KSAs were then categorised to describe seven competencies pertinent to renal nursing and working with patients with fear of needles. Two main themes: *Flexibility*, and *Responsibility*, overarched all KSAs and competencies. The challenging and multi-faceted nature of needle fear was detailed by participants as a hindrance to effective care. Recommendations for continued professional development for renal nurses are suggested, highlighting the need for the education and resources specific to working with patients with needle fear. Findings are translatable across multiple healthcare settings, not only in renal nursing.

### **Declaration**

This thesis contains no material which has been accepted for the award of any other degree of diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.

Tahlia Masotti

October 2021

### **Contribution Statement**

In writing this thesis, my supervisors and I collaborated to generate research questions of interest and design the appropriate methodology. CNARTS Clinical Research Group added me to their ethics application and conducted the qualitative interviews. My supervisors and I collaborated in determining the relevant psychological theory. I was responsible for manually coding all the interviews, creating the categories and themes, and identifying the relevancy of this research. I wrote up all aspects of the thesis.



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## **Chapter 1: Introduction**

### **1.1 Chronic Kidney Disease**

Chronic kidney disease (CKD) refers to the disturbance of blood filtration and waste removal processes by the kidneys, resulting in progressive and irreversible loss of kidney function (Romagnani et al., 2017). Prevalence of CKD has increased 30% since 2012 due to Australia's ageing population and its association with other increasing comorbidities (cardiovascular disease, diabetes), with 237,000 people diagnosed with CKD in 2018 (Australian Bureau of Statistics, 2018). Without treatment, CKD is fatal, and as kidney function diminishes, CKD progresses to end-stage kidney disease (ESKD), requiring a kidney transplant or regular dialysis for patient survival (Baillie & Lankshear, 2015; Kidney Health Australia, 2020).

In 2020, over 14,000 Australian patients received dialysis for ESKD (Australia and New Zealand Dialysis and Transplant Registry, 2021). Peritoneal dialysis (PD) is administered via a drain-bag attached to the stomach requiring manual fluid exchange four or five times a day (which can take place while the patient goes about their normal activities), or overnight via a machine (Baillie & Lankshear, 2015; Kidney Health Australia, 2020). Although PD offers the benefit of undertaking independent treatment on a flexible schedule, it requires careful technique and maintenance, and is associated with both increased risk for infection and shorter-term survival benefits relative to haemodialysis (Hill et al., 2020; Lan, Clayton, Saunders, Polkinghome, & Snelling, 2015). As a result, several patients often transfer from PD to haemodialysis within the first 12 months of treatment, with roughly 80% of ESKD patients using haemodialysis as their treatment modality (Kidney Health Australia, 2020; Lan et al., 2015).

Although haemodialysis can be self-administered at home, most patients undertake centre-based haemodialysis, requiring three or four visits to a hospital or independent 'satellite' dialysis

unit per week (Glover, Banks, Carson, Martin, & Duffy, 2011; Kidney Health Australia, 2020). Haemodialysis involves the creation of a vascular access point for the insertion of needles, typically with a fistula or a graft in the veins of the forearm. Blood is then filtered externally through a dialyser machine and returned to the body via a secondary needle, with this process taking several hours to complete (Castro et al., 2020; Hill et al., 2020). Haemodialysis is widely acknowledged as one of the most burdensome medical treatments due to the intense time spent in medical care, as well as the physical, and mental demands associated with frequent needling (Gilbertson, et al., 2019; Lim et al., 2019).

## 1.2 Needle Fear

Patients undertaking haemodialysis due to ESKD require frequent and long-term exposure to needles, with the insertion and removal of six large-bore needles per week (Duncanson et al., 2021; Hill et al., 2020). Not limited to ESKD, many patients with chronic disease will delay initiating or adhering to medical treatments due to needle fear (Sharma, Kant, Kalra, & Bishnoi, 2020). In patients undergoing dialysis, needle fear is often cited as the main reason for choosing a particular treatment modality. A study of 551 South Australian patients with ESKD found that 198 of these had at some point experienced needle fear, and of these patients, 73 indicated that their needle fear had influenced their choice of treatment (Shanahan et al., 2019).

The continuum of severity of needle fear ranges from dislike and discomfort to *phobia* (Hamilton, 1995; McLenon & Rogers, 2019). Needle *phobia* is included in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) within the diagnostic category of Blood-Injection-Injury Phobia (American Psychiatric Association, 2013). Whilst needle *phobia* often involves total avoidance of the needle, or fainting upon needle insertion, needle *fear* is a more common yet less severe form of anxiety and feelings

of discomfort or distress associated with needles and situations involving injections, not formally or clinically recognised (McLenon & Rogers, 2019; Duncanson et al., 2021).

The existing research on needle fear and its management has focussed predominantly on infrequent procedures requiring needles, such as vaccinations and dental procedures, or with paediatric populations (Ives & Melrose, 2010; Karlsson, Rydstrom, Enskar, & Dalheim-Englund, 2014; Taddio et al., 2015). This grossly underrepresents the population of chronic disease patients worldwide who are exposed to needles on a regular basis. Needle fear in patients undergoing dialysis has been widely overlooked in research settings (Frontini, Sousa, Ribeiro, & Figueiredo, 2020), with a screening instrument for fear of injections in patients undergoing dialysis only recently being validated (Mulder, Hoog, Buytene & De Vries, 2013). In this study, it was found that 41% of patients reported feeling nervous as soon as the nurse approached with the needle. Despite this, needle fear is still not systematically assessed or measured in clinical care settings (Duncanson et al., 2021). It is often underreported by the patients who accept it as the price for staying alive with medical treatment (Guerra-Guarrerro, Plazas, Cameron, Salsas, & Gonzalez, 2014), and is sometimes underestimated by clinicians, creating challenges for health care professionals to manage and work with their patients (Duncanson et al., 2021).

Patients undergoing haemodialysis with needle fear often experience a temporary pre-emptive tachycardia and hypertension on anticipation of the needle insertion (Hamilton, 1995). Anticipatory stress of the needle insertion activates the body's sympathetic nervous system, resulting in vascular constriction and reducing distal blood flow (Hoehn-Saric & McLeod, 1988). This creates a significant challenge for the renal nurse tasked with inserting the needle into the vascular access, often resulting in misplaced needles, breaking through the vessel wall entirely causing a 'blow' (Coventry et al., 2019; Wilson, Harwood, Oudshoorn, & Thompson, 2010). When

this occurs, treatment usually needs to be abandoned due to pain and hematomas caused by physical trauma to the access, requiring the patient to return the following day for another attempt at treatment (Coventry et al.,2019).

Interventions appropriate for patients with needle fear are limited in research (Frontini et al., 2020). Though desensitisation therapy, hypnosis, imaginal exposure, cognitive behavioural therapies and muscle contraction/relaxation have been explored, studies are limited in their evaluation and application to a variety of fear contexts (Duncanson et al., 2021; Hudson et al., 2017; Sokolowski, Giovannitti, & Boynes, 2010). Rather, these interventions have been investigated with participants with more severe needle phobias. These interventions are also restricted in their ability for use by a person not trained in psychological interventions, posing a distinct challenge for the renal nurses who work frequently with fearful patients and have limited means of effectively reducing their fear.

### **1.3 Renal Nursing**

Renal Nursing is an evolving specialisation of nursing practice which centres around providing care for patients experiencing progressive loss of kidney function (Gomez, Castner, & Hain, 2017). Renal nurses have a wide scope of duties, including administering dialysis, providing education to patients and their families, and assisting them in making informed decisions associated with renal disease (Bonner, 2013). A principal responsibility of renal nurses is cannulation; the process of inserting (and removing) the needles which facilitate haemodialysis (Parisotto, Pelliccia, Grassmann, & Marcelli, 2017). Cannulation is acknowledged by many renal nurses as the most challenging part of the role, requiring extensive experience to feel more comfortable with the process (Lamb & Norton, 2018).

Specialised education in the field of renal nursing is not widely provided in Australia; Two nursing postgraduate programs are offered with a renal specialisation; however these already require at least six months of previous experience working as a nurse in an acute renal nursing specialty (Monash Health, 2021; University of Tasmania, 2021). Other education providers offer short courses on renal nursing as part of a larger program of study, but these are typically only an introduction to the field (CQ University, 2021). As a result, much of the knowledge and skills developed by renal nurses is learned ‘on-the-job’, through experience at work (Rassin, Kurzweil, & Maoz, 2015).

All nurses in Australia are required to undertake a minimum of 20 hours of continuing professional development (CPD) per registration period (Nursing and Midwifery Board of Australia, 2021a). CPD allows professionals to improve their competence by broadening their expertise and enhancing the professional and personal qualities required for their role (Havnes & Smeby, 2014). There are several types of learning activities which are appropriately considered for CPD, including undertaking postgraduate studies, attending conferences, or publishing in a peer-reviewed journal (Nursing and Midwifery Board of Australia, 2021). The Renal Society of Australasia provides membership to healthcare professionals working within the scope of kidney disease and provides their members with nephrology-specific content for CPD (Renal Society of Australasia, 2021). However, the education and resources provided addressing needle fear is essentially non-existent, with a search of ‘needle fear’ and ‘needle phobia’ on the website yielding no results. It is therefore unsurprising that there has been, to this author’s knowledge, no research to date investigating the experiences of renal nurses when working with patients with needle fear.

## 1.4 Competency theory

In organisational psychology, job analysis refers to the process in which the content of a job is defined in terms of the duties to be performed, and the behaviours and personal attributes required to fulfil the role (Cascio, 1991; McCormick, Jeanneret, & Mecham, 1972). Job analysis can be broken down into two elements; *job descriptions* and *job specifications*. Where *job descriptions* refer to defining the job by its task requirements, such as the methods and procedures involved in performing a job-specific activity, *job specifications* describe the ‘people requirements’ of the job, including the behaviours, knowledge, skills, and other personal characteristics of the individual fulfilling the role (McCormick, 1976). A growing body of literature on the benefits of interviewing subject-matter experts (e.g., managers, supervisors, job incumbents and analysts) on their expectations of job specifications of both a current and future job (Bartram, Kurz, & Baron, 2003; Levine, 1983; Tett, Guterman, Bleier, & Murphy, 2000) has led to the development of competency modelling, where a role is described by the dynamically interactive features of integrated knowledge, skills and abilities, attitudes, behaviours, personal characteristics, self-perceptions and motivations that enable professional tasks to be carried out effectively. (Rubin et al., 2007; Woodruffe, 1991)

Competencies reflect an individual’s overall suitability for a profession, with Boyatzis (1982, p. 21) defining competence as “an underlying characteristic of a person, which results in an effective and/or superior performance of a job”. Other comparable definitions have been used widely in the competency literature, with Epstein and Hundert (2002, p. 226) defining competence as “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served”. Competencies are necessary for professional practice in that they ensure

that health care professions are well defined and provide standards for performance evaluation, allowing for the expertise of the professional and profession to be analysed (Batt, Tavares, & Williams, 2020; Roche & Chur-Hansen, 2019).

Competency frameworks are advantageous in that they can be continually refined and enhanced through education and development as a foundation for determining the degree and content of training needed to efficiently perform a job (Baartman & De Bruijn, 2011; Kaslow, 2005; Parry, 1996). Competency-based training models have been widely accepted and utilised in the education of health and medical professionals, with a shift towards learners attaining and demonstrating specified competencies for practice, rather than being solely assessed on the domains of, or time spent in education (Leung, 2002; Toohey, 1995). Competency frameworks typically list a set of competencies that are relevant to a specific role or job, establishing the benchmark against which staff are assessed (Baartman & De Bruijn, 2011). Such frameworks ensure that the staff have a thorough and common understanding of the expectations of the job (Harmon et al., 2020).

The benefit of using competency-based frameworks for maintaining job standards is reflected in the Nursing and Midwifery Board of Australia's (NMBA) framework for assessing standards for practice for registered and enrolled nurses, and midwives (Nursing and Midwifery Board of Australia, 2021b). The framework provides a guide for the assessment of competence against the NMBA Standards of Practice (2021c) and is used to determine the eligibility of nursing candidate registration. Nurses in Australia are required to demonstrate competence across seven standards of practice: Thinks critically and analyses nursing practice; Engages in therapeutic and professional relationships; Maintains the capability for practice; comprehensively conducts assessments; Develops a plan for nursing practice; Provides safe, appropriate, and responsive



quality nursing practice; and Evaluates outcomes to inform nursing practice. The NMBA Framework ensures the continuing proficiency of practicing nurses by directly assessing the candidate against these competency standards.

#### **1.4.1 Knowledge, skills, and attitudes**

Competence can be broken down into three foundational components; knowledge, skills, and attitudes (KSAs) (Cronenwett et al., 2007; Fukada, 2018; Schippmann et al., 2000). Takase and Teraoka (2011) describe nursing competency as the motivation and ability to demonstrate an integrated set of personal attributes including knowledge, skills, and attitudes to fulfil professional responsibilities and provide safe, effective, and professional nursing care. Lindberg, Lundstrom-Landegren, Johansson, Liden and Holm (2012) described competence as necessary for performing nursing duties in a safe and consistent manner, and articulated the importance of defining the components of competencies to ensure standards for practice are maintained. Benner (1984) describes knowledge in a nursing context as the practical and propositional understanding of caring for patients. Practical knowledge refers to the ‘knowing how’; tacit knowledge that is acquired through experience, observation and practice. Propositional knowledge, on the other hand, is defined as the formal, evidence-based, theoretical understanding of a subject, or ‘knowing how’ (Benner, 1984; Epstein & Hundert, 2002). Nursing requires the integration of both types of knowledge for proficiency in practice (Lindberg et al., 2012). Skills are defined as the ability for practitioners to perform a function well, developed through training and practice (Fukada, 2018; Roche & Chur-Hansen, 2021). Price (2015) defines attitudes as values and beliefs formed through experience that influence behaviour and delivery of care. Sexton, Hanes, and Kinser (2010) describes these three domains of competency as complementary and interrelated:

Attitudes are the core beliefs, principles, and mindsets upon which specific knowledge necessary to understand science, research, specificity of treatments, and the levels of scientific evidence rests. Specific skills to use, access, and apply different sources of knowledge are found in both core attitudes and knowledge. Thus, each is inexorably linked (p. 157)

In their pilot study of the development of the Holistic Nursing Competence Scale, Takase and Teraoka (2011) identified a set of KSAs necessary for nursing competency. Examples included knowledge – of problems and risk factors, and how to prevent medical errors in own practice. Identified skills included communicating with clients in accordance with their age, cultural background, and value system, and modifying nursing care plans and priorities in accordance with clients' needs. Attitudes included reflexivity and self-awareness, by reflecting and evaluating own thinking processes, and identifying own learning needs by reflecting on own nursing practice.

Similar KSAs are demonstrated in the NMBA Standards for Practice (2021c), expanding on their seven specified domains of competency. An example of knowledge, nested within the competency of 'Thinks critically and analyses nursing practice' is 'complies with legislation, common law, policies, guidelines and other standards or requirements relevant to the context of practicing when making decisions'. Nurses require an extensive knowledge of the ethics, principles, and regulations regarding nursing practice to ensure their duties are performed within their scope of practice (Lindberg, et al., 2012). Nurses are also required to comprehensively conduct assessments, and a skill contained within this competency is the ability to 'use a range of assessment techniques to systematically collect relevant and accurate information and data to perform practice'. Within the competency of 'Engages in therapeutic and professional relationships' is the requirement that nurses 'recognise that people are the experts in the experience

of their life'. An attitude of respect for others' feelings and choices is critical for nurses in allowing for the promotion of positive nurse-patient relationships.

#### **1.4.2 Competencies for renal nursing**

Although the prevalence of CKD worldwide is increasing, renal nursing has only recently been recognised as a diverse, complex and unique specialisation of nursing (Gomez, Castner, & Hain, 2017). This has resulted in limited research into the development and review of competencies specific to renal nursing (Stewart & Bonner, 2000, Lindberg et al., 2012; Coperthwaite, Schutt-Ain, Herranen, & Sorribes, 2012). In 2000, Stewart and Bonner pioneered the first competency framework for advanced practice nephrology nurses in Australia. The framework described 18 performance criteria related to 6 competencies: Professional practice; Reflective practice; Empowerment; Clinical problem solving; Teamwork; and Leadership. Performance criteria delineate specific features of these competencies, for example: "Incorporates evidence-based research into nephrology nursing practice" is listed under the competency domain of 'Reflective practice'. More recent research by Lindberg et al. (2012) described 43 knowledge-related abilities necessary to working within the renal nursing scope, categorised within nine domains of competency: Nursing and medical science; Information and teaching; Examinations and therapies; Promoting health and preventing ill health; Palliative care; Safety and quality; Care environment; Research and development; and Management and cooperation in the patient care pathway. An example under the competency domain of 'Promoting health and preventing ill health' includes 'the ability to recognise the needs for and carry out nursing care aimed at health-promoting lifestyle changes. To do this, the renal nurse must have in-depth knowledge of wellness factors for health, and risk factors for ill health'.

Cowperthwaite, Schutt-Aine, Herranen, and Sorribes (2012) developed a competency-based education component for renal nurses that has since been translated into 12 languages for international use. The program was designed to ensure that practitioners are competent in performing dialysis care safely and independently; can support others; adheres to procedures and policies; maintains a safe environment and assesses risk; reports incidents in a timely manner; is personally accountable; and aware of personal limitations. Learners were intended to acquire the relevant knowledge and skills to be able to perform specific tasks and identify issues, ensuring the provision of quality haemodialysis care to patients. Similar efforts were made by Bonner et al. (2017), who adapted the (now updated) 2014 NMBA Nurse Practitioner Standards for Practice into an education guide describing clinical performance indicators specific to nephrology for Australian nurse practitioners. An example from their guide includes the expansion of competency 1 from the NMBA (2014) standards: 'Assesses using diagnostic capability'. The authors adjusted this competency to reflect nephrology-specific criteria, including: 'Obtains a comprehensive health history with particular attention to features and risk factors relevant to renal disease'.

Though these studies are instrumental in providing a snapshot of the competencies required for working as a renal nurse, they present a number of limitations. Both Stewart and Bonner (2000) and the Bonner et al. (2017) Australian competency frameworks are targeted to advanced practice nurses or nurse practitioners, roles that typically have different responsibilities to registered nurses and require several years of experience. All of these studies also tend to focus predominantly on the required knowledge and skills, with very little or no exploration into the attitudes pertinent to renal nursing. Attitudes are an essential domain of competency, often contributing to the way in which knowledge and skills are utilised, and as such, should be given further consideration when describing competencies (Fukada, 2018; Sexton, Hanes, & Kinser, 2010).

The other critical component lacking in these competency frameworks is that they do not address competencies related to working with patients with needle fear, despite the fact that haemodialysis patients are one of the largest cohorts of patients exposed to needles on a regular basis (Duncanson et al., 2021; Frontini et al., 2020). Although there is a growing body of literature exploring patients' perspectives of their own fears, to date, there has been no formal research investigating how renal nurses work with and manage fearful patients. While some competencies described in both the regular registered nursing and renal nursing context may be applicable to working with fearful patients to some degree, it is likely that a unique set of knowledge, skills, and attitudes are necessary for working with fearful patients given the distinctive nature of challenges faced by this cohort.

### **1.5 Aims and research question**

Literature exploring the competencies of renal nurses is limited, and at present, there are no data examining the experiences, practices, or capabilities of renal nurses when working specifically with patients with needle fear. While there are a number of studies exploring the competencies required for nursing and other health care professions generally, there is a need for further research examining the perspectives of renal nurses, and the KSAs required for working effectively with fearful patients. As such, the present study aims to address these gaps in the literature based on a sample of nurses working in tertiary hospital settings in Adelaide, in 2020, through the following research question: *What are the knowledge, skills, and attitudes of renal nurses working with dialysis patients with a fear of needles?* Given the significant research gap on the topic and the aim to uncover a comprehensive exploration of the perspectives of renal nurses, a qualitative exploration is most appropriate (Guha, Viccelli, Wong, Manera, & Tong, 2021).

This study has the potential to inform both future research, and may be considered a ‘first step’ towards the development of a set of competencies for renal nurses and other health care professionals for working with fearful patients (currently no such guidelines exist). Ongoing benefits extend to the potential for development of specific competency-based training for working with fearful patients at both the university level, and for continued professional development and training for nurses, and other health care professions broadly.

## Chapter 2: Method

### 2.1 Participants

Participants were nominated by Central Northern Adelaide Renal & Transplantation Service (CNARTS) nephrologists and nursing staff, then approached by researchers from CNARTS Clinical Research Group (CRG). Following the process of snowball sampling, where existing participants invited potential participants to contact the investigators directly, thirty participants were contacted to take part in the study. However, following the achievement of data saturation (with no new themes emerging from conducted interviews) (Braun & Clarke, 2006), seventeen participants took part in the study. Participants were renal nurses with varying roles and experiences presently working with patients undertaking dialysis for ESKD (see Table 1).

Table 1

*Participant characteristics (N = 17)*

Age range	Sex	Experience in renal nursing	Role / title
32 – 57 years	F = 14	1 – 30 years	Clinical Nurse x 5
<i>M</i> = 45.9	M = 3	<i>M</i> = 15.9	Nurse Practitioner x 2
<i>SD</i> = 7.8		<i>SD</i> = 9.7	Nurse Unit Manager x 6
			Registered Nurse x 3
			Enrolled Nurse x 1

## 2.2 Procedure

The research was registered and conducted in collaboration with CNARTS CRG, a multi-disciplinary team with the aim of influencing clinical care through evidence-based practice via patient-centred studies. Semi-structured interviews were conducted by a researcher from CNARTS CRG by Zoom, Microsoft Teams, or face-to-face. Interviews took place over a two-month period from March to May 2020, and ranged from 35 minutes to 105 minutes, with an average length of 65 minutes. An interview guide was developed by the researcher based on the existing needle fear literature, and was used to structure the interview process (see Appendix A). Questions were open-ended to allow participants to guide the interview and explore the content of their responses.

Participation in the study was voluntary, with participants reminded of their right to withdraw at any time. Participants were informed that their choice to proceed or decline participation would not affect their current or future employment. Once contacted by the researcher, participants were explained the purpose of the study in greater detail, and provided with an information sheet and consent form prior to commencement of the interview.. All participants consented to being interviewed and audio-recorded for the purpose of transcription during the interview.

Audio recordings of the interviews were transcribed by automated transcription service company *Temí* (<https://www.temi.com/>). The researcher from CNARTS CRG removed identifying information such as names and workplaces from the transcripts before they were provided to the honours researcher. De-identified transcripts were stored securely on SA Health password protected computers. Transcripts were formatted to the appropriate standard with line numbers inserted into the documents for easy identification and reference of quotes in the final report. Once transcribed, the electronic recordings of the interviews were deleted.



The Central Adelaide Local Health Network (CALHN) Human Research Ethics Committee approved the addition of the honours researcher to the investigator group on February 25<sup>th</sup>, 2021 (HREC/19/CALHN/72).

### **2.3 Analysis**

The focus of the analysis was the identification of KSAs of nurses working with patients undergoing dialysis with needle fear. Identifiable connections and patterns of data were coded according to KSAs, then categorised to create a framework of competencies. Thematic analysis was utilised as the method of data analysis due to its suitability for the identification of patterns and obtainment of rich information from a specific matter of interest from a small cohort of participants (Boyatzis, 1998).

The researcher grouped identified codes from the data into themes with shared meaning. A theme is defined as a word or phrase that captures a significant feature about the data and/or research question, emerging from a variety of a patterned responses within the data (Braun & Clarke, 2006). Data were analysed using a deductive, theoretical (top-down) approach, without searching for meaning beyond what was reported by participants, with analysis driven by the literature and the use of a coding framework (KSAs and competencies) (Boyatzis, 1998).

Analysis followed the six stages of thematic analysis as outlined by Braun and Clarke (2006): familiarisation of data; initial code generation; searching for preliminary themes; refining themes; defining and naming themes; and producing a final report. The researcher's primary supervisor reviewed themes against the raw data. Discussion between the researcher and supervisor facilitated thematic consensus and enhanced the trustworthiness and rigour of the results (Tracy, 2010). An audit trail was maintained throughout the analysis process to enhance

transparency and self-reflexivity (Tracy, 2010). Notes that were made included potential themes and ideas for consideration to clarify the decision-making process. As the researcher only had access to automated transcripts of the interviews, the words have been understood as the researcher read them.

Credibility is granted to the study via a reflexive approach for the maintenance of transparency wherein the researcher considers their involvement in the project to highlight personal interests and intellectual biases (Tracy, 2010). Though the researcher had no personal experience living with or caring for someone with kidney disease or a chronic illness, they had a personal interest in the field of health psychology.

## Chapter 3: Results

### 3.1 Overview

Two major themes overarched all KSAs and competencies; these were ‘flexibility’ and ‘responsibility’. A thematic map was produced to illustrate the relationships between KSAs, competencies, and themes (see Figure 1). Thirty-six features of knowledge, skills, or attitudes (KSAs) were identified from the data (see Table 2). KSAs were then summarised under seven main competencies pertinent to renal nurses working with patients with fear of needles. Competencies included: *Collaborate with the service, the patient, and their stakeholders; Provide support to the patient that extends beyond basic nursing requirements; Allow the patient to be the leader in their healthcare; Endeavour to continually update skills; Conduct comprehensive observations and assessments; Understand the significance of the experience for the patient; and Acknowledge challenges of working within the scope of renal nursing.* Several of the KSAs were relevant to more than one competency.

Knowledge was defined as the practical and propositional understanding of caring for patients derived from both experience and theory (Benner, 1984). Twelve types of knowledge were identified, these were: *Knowledge of the benefits of self-cannulation; Strategies that patients use to mitigate fear; Patient comorbidities; Physiological signs of fear; Impact of needle fear on treatment choice, Adherence, and Quality of life; Causes of needle fear; impact of the dialysis unit, The nurse, and Family and carers; and Personal limitations.*

Skills were defined as the ability to perform a function efficiently, developed through practice and training (Roche & Chur-Hansen, 2021). Skills identified were: *Teamwork; Communication; Build and maintain rapport; Involve the patient, and Family and carers; Educate patients and carers; Distract patients; Adapt to patients; Work at a client driven pace; Let the*

*patient control the treatment; Cannulation; Use tools and technologies; Assessment and observation skills; and Recognise when patients are experiencing fear.*

Attitudes were defined as values and beliefs formed through experience that influence behaviour and delivery of care (Price, 2015). Ten attitudes were identified, including: *Honesty; Confidence; Guilt about causing pain; Pressure to work under time-constraints; Fear of failure; Fear of working with particular patients; Patient presentations; Desire for improved patient education; and Desire for psychoeducation.* What follows is a description of the main findings summarised under the two themes.

Figure 1

Relationships between knowledge (K), skills (S), and attitudes (A), competencies, and themes

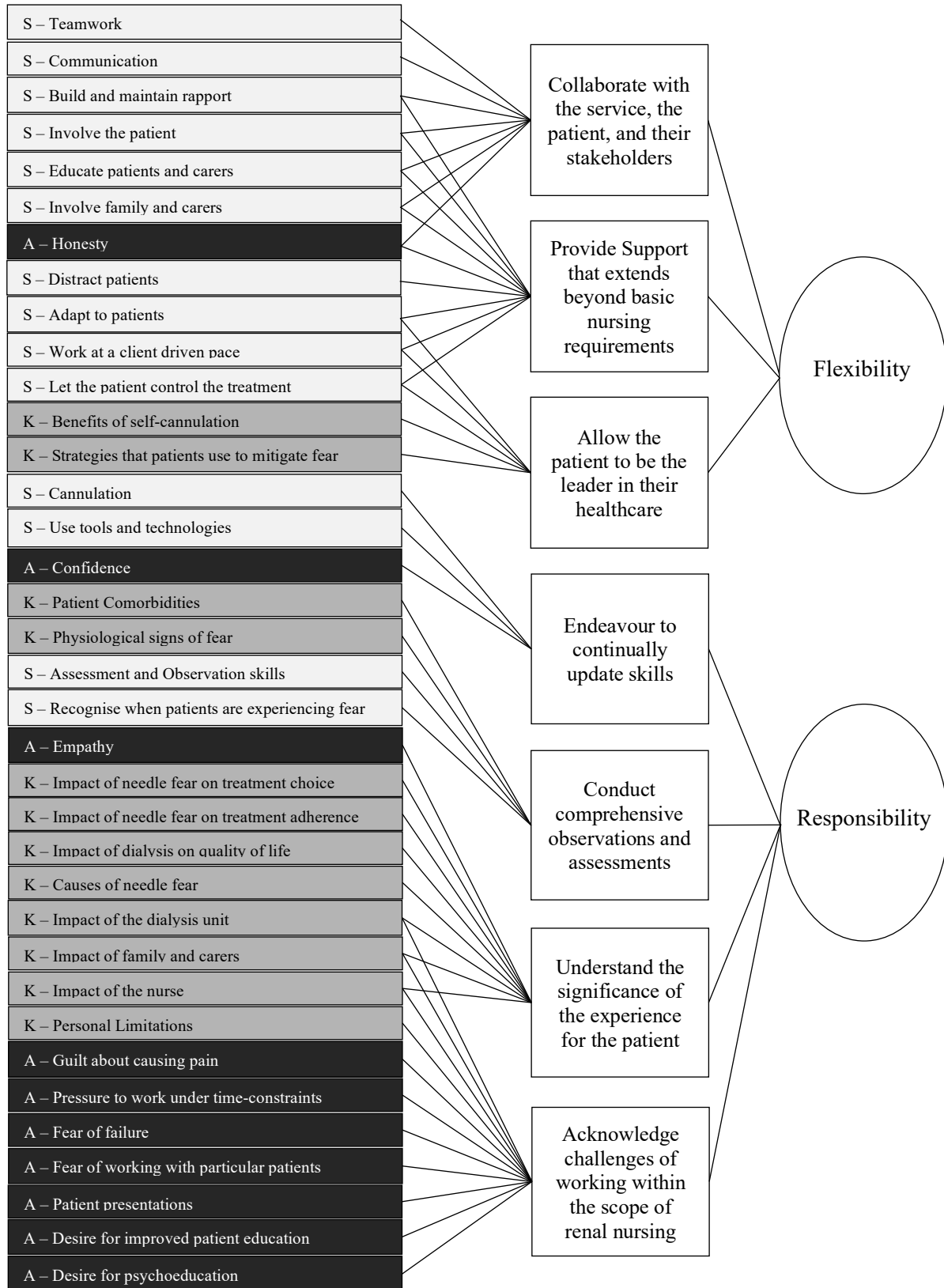


Table 2

Knowledge, skills and attitudes (KSAs), with relevant quotes

<b>Knowledge</b>		
Personal Limitations	The importance of recognising when to cease cannulation was emphasised as critical for limiting patient distress, with acknowledgement also given to the importance of referring onto specialised psychological services when necessary.	I mean, we don't, we can't take on the role of psychologists and, um, you know, get patients through everything. There could be some tips and tricks to try this distraction method or try this. And then knowing where that's, um, I guess where the line is and where, where you're, um, where the limit is and then where else you can refer other services, you can let the patient know about. (Nurse 3, lines 641 – 644)
Patient comorbidities	Participants recognised that dialysis patients often present with an array of other mental and physical health conditions, describing the knowledge of how these comorbidities interact with renal disease as invaluable for treatment planning.	So back in the nineties, um, the patients who were like, GN [glomerulonephritis] was the main, was the highest cause of kidney failure. Now it's, um, diabetes and hypertension. So we're looking at lifestyle factors and the physical makeup of our patients, is completely different now as well. Um, and so often type two diabetics come with a whole range of other comorbidities, which back then when we were, when we were mainly doing GN patients, um, they didn't have the other comorbidities that come with them. And I think that, um, the older you get and the more co-morbidities you get also complicated also complicates the, the difficulty of the accesses that we use. (Nurse 14, lines 155 – 162)
Impact of needle fear on treatment choice	Participants reported instances of patient delays to beginning dialysis, or patients choosing to remain on peritoneal dialysis despite the higher maintenance of treatment.	So I've seen, I've seen patients that have got a line, a central venous line because of their severe needle phobia. And that's got a lot more risk in terms of, um, infections and bloodstream infections. So, but I've seen that I've seen, we've done that 'cause the needle phobia has been extreme. We've put a line in. (Nurse 11, lines 120 – 123)

Impact of needle fear on treatment adherence	A multitude of factors that contribute to treatment avoidance were detailed by participants.	They don't want to come because we're going to hurt them or, you know, have had terrible experiences of their needles blowing or, or whatever you want to call it. So then they are reluctant to dialyze. So they'll put things off. They'll not turn up. (Nurse 15, lines 72 – 74).
Impact of the dialysis unit	Dialysis units were described as an extremely clinical environment offering little privacy, with participants recognising the intimidation experienced by patients in both being watched by others, and by witnessing other patients' trauma.	Her way of coping was screaming or having a, it was really quite traumatic for her, but her trauma actually filtered through the haemodialysis unit. And that particular time she was having a really bad time. I had three pre-patients, um, that were in that stage in the dialysis unit that had refused to have fistulas. Cause they didn't want to go through what she was going through. Other peoples' experience and journeys does filter through. The haemodialysis units are so open it's positives and negatives to that. Because like I said before, watching someone else, does, it can boost someone's confidence and take the fear away. But for someone else, seeing someone having a bad experience can then cause anxieties as well. (Nurse 4, lines 410 – 415)
Impact of family and carers	Participants described the high occurrence at which family members unintentionally transfer their nervous feelings onto both the patient and nurse.	If the relatives are anxious – and we've got this little lady that is a wife of a patient and, um, she is always hovering and looking at us when we're needling and that can be quite distressing as well. (Nurse 2, lines 385 – 387)
Impact of the nurse	Participants emphasised the importance of approaching with a calm and confident demeanour, as nervous nurses often heighten patient distress.	Um, what can make it worse is the nurse mishandles the situation as well, because if they are worked up and starting to stress out about the needling or that they haven't cannulated properly, and that patient will feed off of that. (Nurse 12, lines 104 – 105)
Impact of dialysis on quality of life	Participants recognised the amount of time patients spend in medical care as disruptive and inconvenient, especially when patients are asked to	So it does have a flow on effect to other shifts has a flow and effect to the, um, you know, the quality of life of the patient. If they're spending more time at dialysis than what they need to, if they're getting more than the two needles that they need for treatment. Um, and if the potential damage it does

	return the following day to try again due to unsuccessful attempts at cannulation.	to their access, all these things weigh very heavily on their mind. (Nurse 14, lines 31 – 34)
Causes of needle fear	Participants recognised the multifaceted nature of needle fear, describing it as often instinctive, but also emphasizing the size of the needle as extremely intimidating. Naivety to treatment, fear of blood, or previous poor experiences with needles were also described as contributors to distress.	I think it comes with, um, with life, as most of this is what you're introduced from, from day one. When you're born, that needles is scary. You need to be careful not to prick yourself. And once you start getting sick and you start getting bloods, taking blood and having blood tests done, you have cannulation there as well. And for them then before they're getting dialysis they need to have regular blood tests. So they are exposed to fair bit of cannulation. And if they get traumatized there, it brings it on to the cannulation that needs to be done during dialysis. So maybe bad experience with, um, with taking bloods prior to starting the dialysis. (Nurse 6, lines 282 – 286)
Physiological signs of fear	Participants detailed the physical symptoms experienced by patients, with fainting episodes reported in extreme cases, and described the difficulties associated with cannulating a patient undergoing an intense physical response.	They will have that cortisol and that adrenaline, that fight-flight response. So their whole thing will be, um, their peripheral vasculature will be, um, constricted because they've got this initial, if they've got this response. So basically, it's their heart and their lungs, their pulse is racing. Their blood pressures high, and their access can be quite small. So when you are seeing them quite distressed, and you've got these two needles, so we have 15 gauge needles, which are quite big, um, to insert them into a vessel where somebody is stressed. (Nurse 2, lines 83 – 87)
Strategies that patients use to mitigate fear	Recognised techniques incorporated methods of self-distraction included mediation, music or television, distraction by another person present, or avoiding watching the process at all. Patients also use topical or local anaesthetics to reduce	People watch TV, people listen to music, people shut their eyes and look away. Some people have probably never seen the needles going because they don't want to. So they'll, they'll look away and, and, or they'll have a staff member or they'll have a family member hold their hand and talk to them. They're probably the main sort of mainly distraction is the way people manage it, I guess, I guess unfortunately it's unavoidable. So you could have the headphones on and kind of zone out. (Nurse 5, lines 194 – 197)



pain.

Benefits of self-cannulation

Participants described understanding both anecdotally, and by evidence based in the literature that self-cannulation offers a better quality of life for dialysis patients due to diminished pain, reduced cannulation trauma, and increased flexibility in choosing when to dialyse.

Um, I think it probably reduces the fear because they know when the needle's gonna go in, so they're not necessarily jumping. Um, and I think they know what's tender, so they're not being uh, the, vulnerable, with the nurses that might say they're going to go here and go somewhere else. And I think it's self-empowerment. Anything that you do for yourself does make you feel a lot more control and, um, a lot more guidance of, they've got control of their treatment. Cause there's so much that gets done for them or taken away from them. (Nurse 4, lines 205 – 209)

**Skills**

Assessment and observation skills

Assessments and observations were described as a critical component of renal nursing, required for the entirety of the treatment, and a significant contributor to patient distress when not done correctly.

I'm always observing, do you know what I mean? So I'm always observing, I'm watching them, I'm watching the arm. You can, cause you're touching them you can feel what's going on with them. So they might start to get hot and sweaty and clammy and you'll know when their breathing changes because you're just observing as you're going. And it's just an instinctive thing that you do as a nurse. So there's always that ongoing observation of them at all sorts of levels. (Nurse 15, lines 182 – 186)

Cannulation skills

Cannulation skills were described as one of the most necessary proficiencies for renal nurses, emphasising the importance of inserting the needle successfully and with minimal pain on the first attempt.

So I have quite a strict policy in the unit that, um, people have to ask for help. And if they really don't think they can do it, then they get somebody. And so we've kind of developed that culture in the unit anyway. And so we don't have such a problem, but there is in other places and you'll get patients coming back and telling you stories about, you know, different nurses that have just absolutely butchered their arms. And that it's one of the reasons why people have phobias. It's not necessarily that initial cannulation, it's that ongoing, you know, bad experience kind of stuff. (Nurse 15, lines 166 – 171)

Teamwork skills

Participants described collaborating with other nurses

So I get another senior member of staff who I know is good at cannulating and I'd be like, "come have a look at this with me", because then, you know,

as an essential skill for minimising patient distress, supporting new nurses, and improving the rate at which cannulation is completed with minimal issues.

if you have any problems, then you can call on them. And I find as a staff member in reducing the anxiety, that can be really good, is having a person go, “yeah. Now I agree with where you should put those needles” or “no, I don't and this is why”. Yeah. And then also if you have problems and they can step in and, and have a go. (Nurse 5, lines 164 – 167)

Communication skills

Participants discussed the need to tailor language and communication styles to the patient, with some participants describing a pragmatic approach to treatment as preferred, and others detailing the use of humour and casual conversation as a way to divert the discussion away from clinical matters.

I think, um, yeah, I think you gotta bring it back to their level. I think you've got to, um, you know, not use the words that we use or that's just me now, uh, many would probably argue, um, uh, like, yeah, bring it brought back to the level, instead of saying “a bruit and a thrill”, just get them to feel as said, “can you feel that, can you feel the push push?” you know, and really simplifying everything for them? I think sometimes we think that they're understanding, and they understand everything and you know, and really they don't, they really don't. (Nurse 9, lines 400 – 404)

Build and maintain rapport

Rapport building was discussed as an essential skill that requires time to develop, but necessary for increasing the trust and confidence that the patient has in the nurse. The ability to maintain rapport was described as a related yet distinct skill, often disrupted when cannulation difficulties arise.

Um, well, with dialysis nurses, we see most of the patients all the time. And, uh, you develop that rapport with that patient, um, by listening to them, listening to what they say, um, addressing what they're telling you and, um, they know their body better than anyone else. So when you ask a patient, how do you feel? You need to listen to exactly what they say as you, sometimes you need to read between the lines of what they say, this is how you develop the trust with the patient. And in a, we work with the same people over a long period of time and they know us and we know them as well with the time. That's why it's very hard for new nurses in dialysis as the patients don't know them. And there are patients that they refuse nursing care from particular individuals. Yes. Simply because they don't trust them to put their needles in as they're scared. (Nurse 6, lines 189 – 195)

Involve the patient

Participants emphasised the importance of providing their

I would sit and talk to the patient to talk to them about their fistula, know more areas of tender and soft and then actually talk to the patient of where

full attention to their patients, acknowledging them as the expert of their bodies and treatment.

I'm going to go. And I found that used to work for patients cause it's sort of that collaborative approach instead of just grabbing the patient's arm, so to speak and putting a needle in is really, just assess that fistula, talk to the patient if there's any tender or soft spots or any problems from the previous. So I think that consultation is really important to talk through as well as evaluation after, like "how did that feel? Was there any tenderness or anything?" Get that feedback after the session to make sure it was okay. (Nurse 4, lines 115 – 120)

Adapt to patients

Adaptability was described as a significant skill for renal nurses due to the variation in fear, experience, and understanding present in dialysis patient. Emphasis was placed on the importance of recognising that factors that limit distress in one patient may exacerbate it in another.

There's gonna be so many different individual reactions between people that what works for one, isn't going to be, what's going to work for all. And, um, you know, that there's always going to be the, um, you know, the fish that swims against the stream sort of thing. Um, and that, you know, one size doesn't fit all in, in terms of how we approach this. Takeaway message. And it's certainly consistent with the other nurses I've spoken to. And also the patients, some, some say," yeah, I'd give that a go". Or "that would be, that seems like it'd be helpful in other times". Yeah. I think, yeah, we [nurses] need a broad range of resources. (Nurse 14, lines 771 – 777)

Work at a client driven pace

This was described as a highly essential skill for limiting patient distress, especially considering the pressure often faced by renal nurses to hurry patients through their treatment. Working efficiently within the unit whilst also ensuring the patient's comfort is a balance that needs to be maintained.

They take their time. I get the local anaesthetic. They're not rushed. The patient doesn't feel rushed. Um, and that's success to me. That's what I'm. Yeah. And I think that makes the patient feel, when the time is taken and it's not rushed, I think that's key. Yeah. It's what they want to be doing. I've already, ready, I think they would rather take their time. Definitely. I would say anything, I think they're more stressed out when the nurses' rushed. You've got three other patients waiting for him and they're really rushed, they hurry up and do it. I think that probably has more effect on them than that. Take the time to talk to them, you know? (Nurse 9, lines 300 – 306)

<p>Let the patient control the treatment</p>	<p>Participants emphasised the value in reaching agreement between the nurse and patient regarding treatment procedures, allowing the nurse to work effectively whilst listening to and respecting patients' wishes. When appropriate, reasonable patient requests should be adhered to, providing the patient autonomy over their treatment.</p>	<p>They're trying to have some element of control. Um, so most patients that have got anxiety will want their environment controls set up the way they want to sit and they will take control of when they go on the dialysis machine that they won't let you put them on until they're fully ready for you to start that process. Um, they'll also want to have some input into the dialysis treatment itself. So they might say something along the lines, "I don't want to do two litres fluid removal today. I only want to do one and a half" and you know, there might not be a rationale behind it, but it's all about having some semblance of control over the scenario. (Nurse 11, lines 227 – 233)</p>
<p>Recognise when patients are experiencing fear</p>	<p>A variety of indicators of fear were described, with recognition of these as typically intuitive and learned over time by working with patients.</p>	<p>Some of the patients they openly, um, say that they are scared. Others, um, you can see their face expression and, um, what goes on, on their face, they frown, they squeeze their eyes really tight. Um, they, um, they look away, they don't look at the sites where you are working while they were observing everything else. And once it comes to the needling stage, they just look away and you can see it all they're frowning when you are, um, putting the needles in. (Nurse 6, lines 149 – 152)</p>
<p>Distract patients</p>	<p>Distraction was described as the primary tactic used for working with patients with needle fear as a strategy to help them endure the situation.</p>	<p>I use distraction techniques with my patients because I've been cannulating for a very long time, I tend to be able to cannulate them and talk at the same time, have a conversation. So I find sometimes that is distracting and some say "oh my needles in?!", and I'm like yeah, because we've talked about the cat the dog the family, Anything else. (Nurse 3, lines 246 – 248)</p>
<p>Use tools and technologies</p>	<p>Tool and technology use was described as an effective way of reducing pain or improving cannulation efficacy, though often requiring experienced nurses with specific skills in the use of these devices.</p>	<p>if you have a look under the ultrasound, you'll see where it [the vessel] dips, where it kinks, where it moves, how deep it is. I find that really helpful because even if you put a tourniquet on, sometimes you can't really tell the depths just by feeling. And sometimes it's nice to know when you're putting a needle in, the depth of the needle, going into the arm of when you're at, "hold on, now I must be on the right track. I've gone deeper than what I feel like I should have", if that makes any sense. So if, um, and that also in some</p>

ways can reassure them. Yeah. Cause you can also say show them on the actual on the ultrasound screen, what you're aiming for. And then you can talk about a plan with them, which can also then be quite calming. (Nurse 5, lines 123 – 129)

Educate patients and carers

Participants described the ability for nurses to explain the processes involved in assessing and maintaining patients' fistulas and accesses as essential for the health and wellbeing of patients.

So when we see them, we certainly make them comfortable with their fistulas. We certainly tell them about the thrill and the bruit. I actually get the stethoscope for them to hear the bruit. And I always say, "can you feel your, can you feel your fistula? Cause that's really, really important, and manage to do that every day". (Nurse 9, lines 116 – 119)

Involve family and carers

Participants recognised the concern that family members express for their loved one's wellbeing, however, the ability to manage overbearing family members is critical in creating a comfortable experience for both patients and nurses.

She's lovely. She just – sometimes you have to say "It's okay. I'll get there" just to try and sort of gently farewell an anxiety there. And so when we were having troubles, she would say, "Oh, last week they did this and this week they did this and last time and they did this and did you know, he's got his own injection tomorrow, so no heparin", like, you know, she's prompting us. And often, sometimes we do miss things and we go, "Oh, thanks. You know, that's awesome. Thank you so much". Um, but when the patient is there on his own, um, he's very relaxed and things seem to be much, well, I find it just easier. Um, she's lovely. And she certainly, you know, but again, they're the carers and they're so worried about their loved ones that, you know, including them as well and making sure they feel comfortable and all that sort of thing is very important as well. (Nurse 2, lines 399 – 406)

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**Attitudes**

Confidence

A balance between caution and confidence was described as critical to competence, improved by frequent and successful experience.

I know the principles, how to put it in how to take like all of those aspects. I know assessing it, but it's just that confidence thing. Um, just like taking blood peripherally or putting a needle in, if you don't do it as much, you lose a bit of self-confidence. (Nurse 4, lines 246 – 248)

Honesty	<p>Honesty was described as typically appreciated by patients, although participants described the fine-line between oversharing unpleasant information (so as not to discourage patients from undertaking dialysis), and being truthful about the severity of cannulation problems within a timely manner.</p>	<p>You certainly have to explain the risks of the procedure you're doing. Um, but I think if you do that before you actually approach the procedure, then that's, you've got time to divert the patient's thought away from the negatives to, um, just a general conversation at the time. Um, if a problem arises, then you've got to be completely upfront and tell the patient that, you know, that you're experiencing difficulties or it's not going as well as you would like, or you think that this has happened. And if you can, if you can explain the reasons why it sort of adds, um, help as well, or you can enter the, you know, the patient's level of comfort at the time. (Nurse 14, lines 132 – 138)</p>
Empathy	<p>Empathy was acknowledged as critical to facilitating good care, however variations in empathy were expressed as a concern by many participants.</p>	<p>You know, from a patient perspective, I don't think it gets easier for those people who have difficult accesses and who it's, it's really missed, or have cannulation problems. I think it causes them a lot of emotional and, um, physiological stress. And I think that sometimes that is overlooked. (Nurse 14, lines 46 – 50)</p>
Guilt about causing pain	<p>Participants described feelings of guilt when causing pain, but acknowledged the importance of disallowing guilt from preventing their role in facilitating critical treatment.</p>	<p>Well, I, I, until now I always say, sorry, when they see that, when I feel that they are not coping very well, I always say, sorry. And I do feel sorry for them that they need to go through this. Um, I don't in my, I don't feel guilty that I'm doing that as I know that I am helping them. I just feel sorry that I need to hurt them for them to have that treatment that keeps them going. (Nurse 6, lines 157 – 159)</p>
Pressure to work under time-constraints	<p>Adherence to patient scheduling was described as challenging, with dissonance often experienced by staff who want to spend the time supporting patients, but are required to work quickly.</p>	<p>We are very dictated by, um, churning through as many patients as possible. We have more patients than what we can, but more patients in dialysis chairs. And so the physical reality is, is that I've got to get through sometimes four patients a day on the same dialysis machine. And if you have cannulation issues, then that will put them back. And so, or if you have time issues and all the rest of it. And so there's often a production line sort of</p>

		<p>approach to patient care. Um, I think your staff do feel like there is that sort of pressure on them. (Nurse 14, lines 382 – 386)</p>
<p>Fear of failure</p>	<p>Attachment of ego to cannulation was acknowledged by participants who have witnessed other nurses have several needling attempts despite visible patient discomfort, so as not to reflect poorly on their cannulation skills.</p>	<p>There's also pride involved with nurses that if they miss, they want, they want the ability to, um, manage that themselves. And, um, you know, asking for help sometimes can be incorrectly, um, considered a sign of weakness. Um, so I think that sometimes people will try and, um, overstretch, or they may, I don't think people are as, inexperienced people in particular, aren't as comfortable to ask for help as what they should be. (Nurse 53 – 57)</p>
<p>Fear of working with particular patients</p>	<p>Allocation to patients with which a poor cannulation experience has occurred was described as distressing, with instances of nurses taking sick leave as a way to avoid hostile situations.</p>	<p>Someone that's terrified, sometimes they can actually be really, really nasty to the nurses because they're scared. So then the nurse becomes very fearful of, um, especially if you have a bad experience and your needle, doesn't go in first time and then the patient can get really narky. It puts the nurses off and puts them under added pressure. So it's a double edged sword really. Um, and I've got, I've got one patient who I've never forgotten the name of, ever. And I mean, I was really experienced, but I could not get her needles in and, and she was so mean about it every time that it got the point where I used to have the phobia and I used to, just could feel myself getting really, really stressed. Every time I saw her name against mine, I used to say "Oh please, God, don't give me her." You know? And I would miss every time in the end and she was really nasty, she used to say horrible things. (Nurse 15, lines 78 – 84)</p>
<p>Patient presentations</p>	<p>The maintenance of patients' health between sessions was described as especially important for cannulation, with a degree of responsibility for treatment ease attributed to patients.</p>	<p>Every time a person turns up for treatment, they can present completely differently every time. So there are lots of reasons why they present differently. That can be, if they've got lots of fluid onboard, if they haven't got much fluid on board, if they're hypertensive, if they're hypotensive, if they're unwell, if they've got an infection or a fever, if they don't have an infection or a fever, if they're upset, if something's happened and they're emotionally stressed, they can also present, um, very differently and their</p>

accesses are, can present very differently, um, from each treatment. (Nurse 2, lines 77 – 82)

Desire for improved patient education

Introductions and education for patients and carers regarding dialysis and renal disease generally was described as unstandardised and sometimes entirely lacking, contributing to an exacerbation of fear when first attending treatment.

I think we let them down in that pre-dialysis space. I really do. I don't think some people really understand what it involves and they don't understand that simple things like, oh, it's going to be two needles. It's not just one needle. It's two needles and why these two needles. And I just don't think there's enough time spent actually teaching them that sort of stuff. I think if they need to see it kind of, they need to see, need to come into the dialysis units. And I don't think, well, I don't know. Maybe it happens in other units, but we don't see very many patients at all come through and meet other patients that are on dialysis. (Nurse 15, lines 242 – 248)

Desire for psychoeducation

Patient access to psychological support was described as limited, therefore the desire for nurse-training involving evidence-based emotional support strategies was expressed, and suggested as a form of continued professional development.

I'd like to know more strategies in calming the patient, making the patient at ease. Am I doing everything and trying everything to my ability? So some practical strategies. Yeah. So overall and just some, just some also feedback from patients as to what they actually think, just because I see they they're anxious and they've got a needle phobia, how are they feeling on the inside? (Nurse 12, lines 305 – 308)



### 3.2 Flexibility

The theme of flexibility encompassed competencies of collaborating with the service, the patient, and their stakeholders, providing support to the patient that extends beyond basic nursing requirements, and allowing the patient to be the leader in their healthcare. Emphasis was placed on the need for nurses to work under the direction of the patient, with the ability to adapt and tailor treatment to their patients.

Um, there is always going to be limitations in that what works for one is not going to be a, is not going to work for another. So I think by having multiple different ways of managing the distress is probably a good thing. Uh, the, the person needs to be, um, motivated to, to do so. (Nurse 14, lines 709 – 711)

Participants recognised the personal and varied nature of patients' feelings of fear, and experiences of dialysis, thereby requiring a flexible approach to renal nursing with the capacity to modify communication styles and support strategies to the needs of the patient. In doing so, patients are granted autonomy over their treatment, with participants describing this as necessary for the longevity and enrichment of the nurse-patient relationship, and as an important way to minimise patient distress.

#### 3.2.1 *Collaborate with the service, the patient, and their stakeholders*

The competency of collaboration with the service, patient, and their stakeholders was identified as an important factor in working flexibly, encompassing skills regarding teamwork, communication, building and maintaining rapport, involving the patient, educating patients and carers, and involving family and carers. Participants described the benefit of working in small

teams as a way of minimising the risk for cannulation errors, and providing reassurance to the patient of the care taken by the nurse to minimise those errors.

Yeah. So if they're a new patient, uh, cause I guess this is where needle distress often happens, is initially I could get a wing man as well. So I get another senior member of staff who I know is good at cannulating and I'd be like, "come have a look at this with me", because then, you know, if you have any problems, then you can call on them. And I find as a staff member in reducing the anxiety, that can be really good, is having a person go, "yeah. Now I agree with where you should put those needles" or "no, I don't and this is why". Yeah. And then also if you have problems and they can step in and, and have a go. (Nurse 5, lines 163 – 167)

Honesty was an attitude associated with collaboration, with participants discussing the need to be truthful with patients, stakeholders, and other staff members about troubles with needling.

### *3. 2. 2 Provide support to the patient that extends beyond basic nursing requirements*

Flexibility was described as necessary for the provision of quality support, with this competency encompassing skills regarding the ability to adapt to, involve, and educate the patient, their family, and carers. Knowledge of the strategies that patients use to mitigate fear was recognised as critical for providing individualised support, with need for renal nurses to approach with an honest attitude. Letting the patient control the treatment, working at a client driven pace, building and maintaining rapport, and distracting patients were also skills associated with providing support, with participants highlighting the importance of developing personalised techniques for patients to ensure that the support is appropriate and effective.

Because he was so distressed and they [other staff] were all laughing at me because basically I was doing breathing exercises with him and I was saying, come on, [patient], let's keep going. Let's breathe in. And then out. Breathe in. And they were – my colleague, who's a friend of mine. She was laughing, saying, "you were cracking me up because you were just doing this whole breathing thing". But I said, "well, it kept him distracted. It kept him breathing. So he wasn't going to pass out. And it also kept his vessels open". And she was looking at me going, "oh, did you find that was effective?" "Yeah. Yeah, definitely. Absolutely". (Nurse 2, lines 477 – 482)

### *3. 2. 3 Allow the patient to be the leader in their healthcare*

A significant component of working flexibly was described as allowing the patient to be the leader in their healthcare, acknowledging the patient as the expert of their treatment. Associated skills involved working at a client driven pace, adapting to patients, and letting the patient control their treatment by dictating how the dialyser machine is set up, or how long they choose to spend in their treatment session. Participants noted that staff-patient allocations are typically made prior to the patient attending treatment due to logistical issues with allowing patients to choose their nurse, however exceptions are made in situations where it was clear that the patient may refuse treatment.

So they will actually in extreme cases will say, "I'm sorry, but I'm not going to allow you to put me on because you don't know my fistula and it's been very traumatizing". In that case, we support that. I think nurses in units that don't support that aren't doing the right thing. I think we should support that. (Nurse 11, lines 46 – 48)

Knowledge of the strategies that patients use to mitigate their fear, and knowledge of the benefits of self-cannulation were also identified as important aspects in allowing the patient to be the leader in their healthcare, with participants describing reduced needle fear and enhanced control in self-cannulating patients, recommending this as an option if suitable.

### **3.3 Responsibility**

The theme of responsibility encompassed the competencies regarding the endeavour to continually update skills, conduct comprehensive observations and assessments, understanding the significance of the dialysis experience for the patient, and acknowledging the challenges of working within the scope of renal nursing. Several responsibilities of renal nursing were described, with the need for understanding of their own impact as one of the biggest contributors to needle fear when not addressed. All participants emphasised that traumatic cannulation experiences are often the most critical factor in exacerbating and continuing needle fear. Participants recognised that patients perceive cannulation (and errors) as a nursing-centric process, emphasising the responsibility that renal nurses must take on in both developing their needling skills, and in recognising their own limitations, ensuring that they adhere to unit protocols that enforce good cannulation practices.

So I have quite a strict policy in the unit that, um, people have to ask for help. And if they really don't think they can do it, then they get somebody. And so we've kind of developed that culture in the unit anyway. And so we don't have such a problem, but there is in other places and you'll get patients coming back and telling you stories about, you know, different nurses that have just absolutely butchered their arms. And that it's one of the reasons why people have phobias. It's not necessarily that initial cannulation, it's that ongoing, you know, bad experience kind of stuff. (Nurse 15, lines 166 – 171)

### *3.3.1 Endeavour to continually update skills*

The need to continually update skills was identified as a responsibility of nurses, with skills in cannulation, and tool and technology use highlighted as areas for continual learning and improvement. Participants stated that ultrasound training is self-taught, not provided for renal nurses. Participants who were proficient in using the ultrasound described it as essential in their practice, and advocated for the need for more nurses to learn to use it in order to reduce the amount of cannulation errors made.

I think that with, with decent ultrasound training and skills that we will fundamentally reduce needle anxiety by, by improving our practice practically and, and objectively. So I think if we, if everybody was confident in being able to use an ultrasound to cannulate, like I said, I haven't missed a needle in two years. Um, but only about, there's only like two of us that really do it. (Nurse 8, lines 622 – 625)

Participants also emphasised the need for a confident attitude when refining cannulation skills, describing the relationship between confidence and success in cannulation as highly correlated.

### *3.3.2 Conduct comprehensive observations and assessments*

Undertaking comprehensive observations and assessments was described as a key responsibility of renal nurses, and, in addition to using assessment and observation skills, this competency pertained to the ability to recognise when patients are experiencing fear. The ability to conduct a thorough evaluation was described as essential for the patient to establish trust and confidence in the nurse, seeing them take the time and care to minimise any potential cannulation trauma.

I've got an approach that patients ask me about and some of the staff, I try to explain it to them. We can very efficiently have to be like a carpenter. So you measure twice and cut just once. And a lot of staff don't get that. They just go in there and have a little fail and stick the needle in. You've got to assess the fistula fully and choose your needle sites well before you get your gloves on and get going. Decide or find where you can actually puncture that vessel and where you're going to put that needle. (Nurse 11, lines 65 – 69)

Conducting comprehensive observations and assessments also requires knowledge of how patient comorbidities interact with renal disease, as well as knowledge of the physiological signs of fear to inform assessments and the resultant decision making.

### *3.3.3 Understand the significance of the experience for the patient*

Participants described the need to understand the significance of the patient experience both for CKD generally and during dialysis as a responsibility of renal nurses. Knowledge of the impacts of needle fear on treatment choice and adherence, and knowledge of the impact of dialysis on quality of life were associated with the competency of understanding significance, in addition to knowledge of the impact of the dialysis unit, family and carers, the nurse, and causes of needle fear. Empathy was a key attitude associated with understanding significance, described as necessary for enhancing the nurse-patient relationship.

I used to work with a dialysis nurse whose husband was a dialysis patient and her giving a perspective of what her life was like after her husband got home from dialysis and the level of distress he would be in when the needle didn't work or he was in pain. And what she had to had to experience as a partner, as opposed to a clinician, it was a really powerful sort of message for me. And it was, um, so they changed, um, my thought processes from

thinking about my experience of needling to the patient's experience or my experience of, of the patient's pain too, not just the patient's pain, but also the effects that has on the rest of their life and their quality of life. (Nurse 14, lines 286 – 292)

Knowledge of personal limitations was identified as an important factor in understanding the significance of the experience, with nurses ensuring that they adjust or cease cannulation when it is too distressing for the patient to continue.

### *3.3.4 Acknowledge challenges of working within the scope of renal nursing*

The need to acknowledge challenges was identified as a responsibility of renal nurses, and was associated with knowledge of personal limitations, and impacts of the nurse, family, carers, and the dialysis unit on the patient.

He blamed me because I couldn't put the needles in properly. Then I had him again on last week and I had troubles with his needles again and yet the placement was fine and all that sort of stuff. So he now has identified that I'm his problem. He sees me as the person that is not able to needle him effectively. So now, which is quite, um, distressing for him, and for me, and for the rest of the team, because if we've only got two staff on, which we do have on that shift, and I'm, there is a more inexperienced person who's having trouble with, and then I'm coming over to assist, he will become very distressed and we've tried really hard, not for that to happen. Um, but he does blame the machine and he does blame the people. (Nurse 2, lines 129 – 134)

Guilt about causing pain, pressure to work under time-constraints, patient presentations, a desire for improved patient education and nurse psychoeducation, and fear of both failure and working with certain patients were important attitudes associated with acknowledging challenges

to working within the nursing scope, with participants recognising the lack of control that they have over specific situations, such as the degree of education received by the patient prior to beginning dialysis, for example.



## Chapter 4: Discussion

### 4.1 Overview

This study employed qualitative methods to explore the experiences and related knowledge, skills, and attitudes (KSAs) of renal nurses when working with patients undergoing dialysis with needle fear. Two main themes were identified; *flexibility* and *responsibility*, each with corresponding subsets of KSAs which were used to inform competencies recommended for working within the renal nursing scope with patients with needle fear (See Figure 1).

Due to the paucity of research in how health care professionals work with fearful patients, the identification of KSAs in the present study not previously mentioned in the competency literature (for example: *The ability to distract patients*) strengthens the argument for needle-fear specific research. However, findings from the present study do relate to and extend on the previous research on KSAs and competencies necessary for renal nursing and other specialisations of nursing more broadly.

The first theme, *Flexibility*, demonstrated participants' acknowledgement of the highly variable nature of the role of renal nursing. Though broadly speaking, flexibility could be seen to be relevant across the entire scope of KSAs, (certainly a flexible approach to treatment delivery and working with patients is necessary within several facets of renal nursing) (Fukada, 2018). Flexibility was considered especially important for collaboration. Participants from the present study established that cooperation with patients, their families, and other staff members are of equal importance, with renal nurses needing to be able to adapt their communication styles accordingly. Consistent with Rydon's (2005) study on KSAs of mental health nurses, service users placed high value on interpersonal skills related to communication, education, and the involvement of family in the process, as integral to the patient feeling respected and unique in their journey.

Similar skills are outlined by Lindberg et al. (2012), listing the education and adjustment of conversation styles to patients and their families based on their needs as a competency necessary for renal nursing. Findings also aligned with Stewart and Bonner's (2000) competencies for the Australian Advanced Practice Nephrology Nurse, who describe collaborating as an active member of the renal health care team as a critical component of teamwork. This was echoed by participants in the present study, where teamwork was highlighted as a skill that aids in minimising patient distress by both distracting the patient, and supporting the nurse. A previous study of novice renal nurses indicated that mentorship and colleague support are highly appreciated and necessary for the development of confidence and enhanced learning opportunities (Lamb & Norton, 2018).

Honesty was highlighted as an important attitude by participants, necessary for working effectively with patients and building trust. Participants in Lamb and Norton's (2018) study described situations of patients declining treatment from new nurses, stating the lack of trust established as the driving factor for refusal. These sentiments were echoed in the present study, with participants acknowledging trust and rapport as necessary for reducing needle fear. Participants also felt that patients are more confident in the abilities of nurses who have spent the time to build rapport and become familiar with their vascular access, reducing the potential for cannulation errors. Building and maintaining rapport is facilitated by demonstrating a genuine interest with the patient, communicating with openness, honesty, and exchanges of feedback (Chiaranai, 2016; Rydon, 2005). Feedback exchange also allows for shared decision making between the patient and practitioner, and is associated with reduced decisional conflict, improved patient knowledge, treatment satisfaction, and participation (Murea, Grey, & Lok, 2021; Vahdat, Hamzehgardeshi, Hessam, & Hamzehgardeshi, 2014; Van Der Veer et al., 2015). An international survey of ESKD patients found that high value was placed on self-efficacy, autonomy, and

personal involvement in care (Van Der Veer et al., 2015). Participants in the present study detailed skills regarding adapting to and involving patients in decision making as necessary to facilitating a positive nurse-patient relationship, and as a key contributor to minimising patients' feelings of anxiety regarding their treatment.

Participants also discussed their knowledge of the benefits of self-cannulation for patients. Reduced fear and increased autonomy were reported as common outcomes of self-cannulating patients, with several participants describing patients as the experts in their treatment. These findings are supported by *The Shared Haemodialysis Care Project*, a programme in which renal nurses assist patients in learning how to perform several treatment-related tasks in the dialysis unit, such as weight and blood pressure measurement, equipment preparation, and self-cannulation (Fotheringham et al., 2021). Patients in the programme have demonstrated increased confidence, and self-reported psychological and physical outcomes. Findings from the present study also support working in ways which let the patient control their treatment outcome, with participants describing the importance of respecting patients' decisions as necessary for increased autonomy (Lamb & Norton, 2018).

Distraction was also discussed as the primary strategy for working with patients with needle fear. Participants described scenarios of patients watching television or listening to music, deep breathing, looking away, or having another nurse or family member talk to them to limit their focus on the cannulation. Similar results have been reported across several studies investigating needle fear in a variety of contexts, including childhood vaccinations or medical procedures using local anaesthetic. Television, music, toys, and distraction by talking have been techniques employed across these settings to ease the process and occupy the mind with pleasant thoughts (Ives & Melrose, 2010; Karalar et al., 2016; Karlsson et al., 2014; Ko, Leung, & Wong, 2019;

McLenon & Rogers, 2019; Taddio et al., 2015). Findings from the present study are also supported by recommendations made by the British Renal Society, based on the opinions of 15 renal nurses. Authors described distraction through relaxation and the creation of a calm environment as beneficial for managing patient anxieties (Fielding et al., 2018). Participants in the present study also described the importance of a calm environment in reducing needle fear, acknowledging that the lack of privacy in many dialysis units often results in the transfer of distress to other patients witnessing an unpleasant experience.

*Responsibility* was the second theme identified from the KSAs in the present study, centring around the need for renal nurses to understand the impact of needle fear on their patients, and consider aspects of their role which may contribute to the exacerbation of fears. As such, nurses must work comprehensively within their scope of practice, ensuring that they respect the boundaries of care. Participants in the present study emphasised that failure to recognise and adhere to personal limitations regarding cannulation skill is a critical exacerbator of needle fear. Fear often stems from previous poor experiences with needles and is worsened by ongoing pain and multiple attempts at insertion (Jenkins, 2014.) Cannulation is a challenging process, requiring regular practice to develop both competence and confidence (Morgaonkar et al., 2017; Parisotto et al., 2017). Lamb & Norton's (2018) study of novice renal nurses found that nursing stress and anxieties related to cannulation were very high in the first several weeks of practice. However, several successful consecutive attempts at cannulation resulted in significant boosts to nurses' confidence, with perceptions of ease in performing the procedure. Similar observations were made in the present study, with participants describing improvements in cannulation confidence following frequent experience. Participants detailed the related nature of confidence and

competence, implying that confidence is necessary to build confidence, but confidence only exists when one is competent.

Participants indicated that cannulation efficacy is improved with thorough assessment and observations, detailing this as a key responsibility of renal nurses. Both Lindberg et al. (2021) and Cowperthwaite et al. (2012) include aspects of ‘assessment’ within multiple competencies for renal nurses, detailing the importance of continual risk assessment and observation of patients’ vital signs. This information is then used to update patient treatment plans where required. Some participants emphasised the benefits of using ultrasound technology for enhanced assessment, implying that needle fear would be reduced in many patients if more nurses were competent in using the technology. Although not specifically taught for renal nurses, recent literature has detailed the benefits of ultrasound use (Blackman, Mannix, & Sinclair, 2014; Hill et al., 2020) and further research should consider the implementation of technology training. This would especially benefit new nurses, hopefully allowing for a more rapid development of both confidence and competence in cannulation skill.

Participants expressed a desire for improved resources and psychoeducation for nurses that would allow them to provide an enhanced level of support to patients with needle fear. In a randomised controlled trial conducted by Hudson et al. (2017), cognitive-behavioural therapy interventions were found to be feasible for English speaking patients within the criteria of ‘psychologically distressed’. Another study found that rapid exposure and desensitisation applied over three sessions to a 64-year-old male patient on dialysis resulted in reduced subjective distress (Fernandes, 2003). During these sessions, a qualified therapist induced simulation of needling by imaginal exposure, with twice-daily exposure tasks self-directed at other times. Where specific psychological interventions are not appropriate for nurses, participants were supportive of the idea

of involving education and the implementation of a psychologist for patients with continuing fears. Loft (2016) details a personal account of a patient and his partner who both strongly advocate for accessible counselling services for patients during their time on dialysis. Further research should be conducted with patients with mild to moderate, rather than severe fears as demonstrated in these studies, to capture a broader perspective of needle fear.

Empathy was described by participants as a necessary component of renal nursing, and this has been widely echoed across healthcare professions broadly (Ives & Melrose, 2010; Lindberg et al., 2012; Rydon, 2005). Participants described feelings of guilt associated with causing pain and heightening needle fear in their patients. Ives & Melrose (2010) detail similar experiences of nurses responsible for vaccinating children, with feelings of distress experienced by the nurses when witnessing children in situations of trauma and discomfort. Dissonance regarding the requirement to get the job done whilst also wanting to take the time to support the patient were reported, with feelings of frustration and exhaustion related to the pressure of the job. Findings from the present study supported these statements, with participants describing dialysis units as almost a production-line approach to care. Nurses felt pressured to start patients on haemodialysis as quickly as possible, despite wanting to allow the patient time to adjust. Substantial time and resources are regularly lost due to patient delaying tactics or time spent by nurses calming patients down enough to be needled (Bevan, 1998; McLenon & Rogers, 2019). Some patients require several nurses present as a means of distraction, and in an already schedule-focussed environment, any time lost is highly disruptive, with many dialysis units limited by their number of available dialyser machines.

## 4.2 Strengths

The study encompassed several universal qualitative strengths, including addressing many criteria that meet Tracy's (2010) standards for excellent qualitative research. To the researcher's knowledge, this was the first qualitative study that explored the KSAs of renal nurses working with patients with needle fear. In previous research, the experiences of renal nurses *generally* have been limitedly explored, and investigations into how they work with fearful patients has not been addressed in *any* prior research. The results from this study were critical in demonstrating the unified desire for improvements to several aspects of the dialysis service in South Australia, highlighting the need for more detailed research and specialised fear-management training for renal nurses. This suggests that the current study was both relevant, significant, and worthy of research (Tracy, 2010).

The variety of roles and experience as detailed by participants enhanced the findings by exploring a wide variety of perspectives. Previous research describing competencies necessary for renal nurses have used surveyed responses, or Delphi approaches, wherein a panel of experts are selected to decide upon the most appropriate competencies. Although this expert knowledge is highly valuable, the potential for bias is increased due to the typical self-nomination of experts, or selection based on years of experience in the role (Lindberg et al., 2012; Stewart & Bonner, 2000). As a result, these approaches have typically excluded the experiences of trainees or newer nurses. The present research contributes to the gap in the literature by exploring how renal nurses with differing roles and years of experience may vary in their approach to working with patients with needle fear.

Tracy (2010) describes meaningful coherence as the requirement for researchers to use procedures and methods that fit the topic's stated goals. This criterion was addressed through the

use of thematic analysis (Braun & Clarke, 2006) to “provide a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex, account of data” (p. 78). Such flexibility has been highly advantageous given the explorative nature of the current study. The use of theoretical frameworks of competency contributed to rigour and ensured that the data were interpreted and coded in an appropriate and meaningful context to address the research question.

The achievement of data saturation ensured that an appropriate sample size was attained and the data collected were sufficient in addressing the research question (Tracy, 2010). Thematic consensus was facilitated by agreement between the researcher and supervisor regarding the identified themes and KSAs, contributing to rigour and trustworthiness of the results (Braun & Clarke, 2006). A comprehensive approach to the coding process ensured that the themes were reflective of the data set. Whilst some KSAs were not discrete to one competency, each of the themes, competencies, and KSAs were distinct from each other. It should also be noted that the described competencies were not exhaustive, rather, enabling the further development of renal nursing competencies related to working with patients with needle fear.

### **4.3 Limitations and future research**

A limitation to the study is that ‘needle fear’ has yet to be clearly defined (Duncanson et al., 2021; McLenon & Rogers, 2019). Participants made several comments regarding their ability to recognise and observe mannerisms in their patients suggestive of needle fear, however, many participants used the terms ‘needle fear’, ‘needle distress’, and ‘needle phobia’ interchangeably, without distinction from the interviewer. Future qualitative research in the area should consider triangulating patients’ and renal nurses or other practitioners’ understandings of needle fear, and use these results as a guide to inform a clearer definition of the term.



All participants from the study were recruited via the Central and Northern Adelaide Renal and Transplantation Service (CNARTS). While participants did have varying degrees of experience, roles, and workplace locations, they were all currently working within metropolitan Adelaide. Findings from this study may be specific to South Australian renal nurses, and further work is required to determine whether perceptions of KSAs differ across states. Future research should consider investigating whether there are variations in needle fear management or established protocols in dialysis units across Australia.

An additional limitation to the study is that the interviews were not conducted by the researcher. As pre-existing interviews with an established interview guide, the questions asked did not specifically enquire about knowledge, skills, and attitudes, and instead more loosely investigated the experiences of renal nurses working with patients with needle fear (see Appendix A). The researcher had to interpret the words as they were written in the transcripts. Without access to the audio recordings of the interviews, it is possible that the researcher may have misinterpreted the participants' tone, or misunderstood what was said as the automated audio recording software included errors. It was clear to the researcher in some sections of the transcripts that what was written was not correctly transcribed, and these were ignored and not coded for analysis. As a result, some key information may not have been included.

This study may have been further enhanced by triangulating data from a cohort of dialysis patients to explore how perceptions of self-management and nurse-management of needle fear may differ. Participants discussed instances of patients denying their fear of needles and described a desire to have a better understanding of the needs of their patients without being insulting or presumptuous about the patients' feelings. As the centre of care, it is critical to appreciate how patients perceive the treatment received (Ahmed et al., 2019). Understanding what patients find

both helpful and harmful in terms of renal nurses' KSAs would provide a necessary perspective to the development of a set of nursing competencies regarding working with patients with needle fear.

Similar efforts should be made to explore how expressions of needle fear differs across cultures. In a multicultural society, care needs to be taken to ensure that practitioners are competent in understanding how their actions may be perceived by someone of a different cultural background. Expressions of feelings of fear or anxiety may be considered inappropriate in some cultures and therefore poorly understood by the renal nurse (Kirmayer, Young, & Hayton (1995). Future research should consider the fact that Indigenous Australians are more than twice as likely to have CKD as non-Indigenous Australians (Australian Institute of Health and Welfare, 2021). Indigenous patients are likely to have different thoughts and feelings regarding both needle fear, and the health care system generally than what has been demonstrated in the psychological research (Bureau of Health Information, 2021). Dedicated research into both the perspectives of Indigenous patients on dialysis, and renal nurses working with them should be explored to understand the cultural differences associated with care and treatment for ESKD. The development of a set of competencies dedicated to working with fearful patients within a culturally appreciative context should be considered.

#### **4.4 Implications**

The findings from this research present several implications for future clinical practice for renal nurses and other health care professionals when working with fearful patients. To this researcher's knowledge, this has been the first study to explore the specific perspectives of renal nurses and the KSAs experienced when working with patients with needle fear. The lack of specialised renal nursing training in Australia has resulted in an absence of specific renal nursing competencies. Competency frameworks related to renal nursing *generally* are also few in number,

unreviewed, and unrelated to addressing needle fear, despite the high estimated prevalence of needle fear in dialysis patients (Lamb & Norton, 2018). The development of a specific set of KSAs has arisen predominantly through on-the-job learning and experience (Rassin et al., 2015). As a result, participants reported that their individual approaches to working with patients with needle fear were often varied in success and dependant on their relationship with the patient. It was therefore unsurprising that participants advocated for education regarding the development of evidence-based techniques and associated competencies for working with patients with needle fear. Several participants suggested offering education about needle fear as a component of mandatory continued professional development, allowing renal nurses to develop a comprehensive understanding of how needle fear manifests in patients, as well as a guide for how to use nurse-appropriate-psychologically-based strategies for mitigating fear. The findings from this study can be applied to local patients and renal nurses through the development of practical tools, resources, and a set of training guides for nurses working in dialysis settings, with the support of CNARTS Clinical Research Group. The identified competencies should be used to inform these resources, and can be refined through further research and replication.

Participants in the study advocated for improved education for patients and carers regarding needle fear, dialysis, and CKD generally. Participants expressed contempt towards current pre-dialysis education for patients, implying that the information is highly variable in its delivery, content, and when it is introduced to the patient. The dialysis service in South Australia would benefit from a refinement to the education provided to patients, and should consider interviewing both patients *and* renal nurses for their perspectives on the matter. Participants suggested that introducing the patient to needles, nurses, other patients, and the dialysis environment prior to their first session would better prepare the patient for the process. Participants

also suggested that patients are ill-informed about the importance of maintaining their health between treatments, or how to do so, even though this was described as a critical factor in easing cannulation efficacy. Participants were highly supportive of the inclusion of psychological services for patients during their time spent in dialysis to more specifically address patient anxieties regarding needle fear and CKD generally, and also to promote positive health behaviours for better ease of treatment.

The KSAs identified by the current study have the potential to inform future research and the development of guidelines and competency frameworks for renal nurses working with fearful patients. Without such frameworks, practitioners will continue to practice in isolation from one another, contributing to both a disorganised and unpredictable experience for dialysis patients (Chiaranai, 2016). As no competencies currently exist, it is not possible to teach new renal nurses how best to prepare for assessing and caring for patients with needle fear. Needle fear is not limited to dialysis patients, however, as an increasing number of Australians are placed on dialysis and frequently exposed to needles, the lack of research into both patient and practitioner experiences of managing needle fear is surprising. Even lesser explored is the perspectives of patients with chronic disease who chose to forego treatment completely due to needle fear. Until needle fear is more clearly defined and understood, it is likely that research into specific treatment strategies will be limited. As the professions of medicine, nursing, and psychology continue to progress, so with them must the exploration of such a pervasive issue also continue.

#### **4.5 Conclusions**

Whilst previous studies investigating needle fear are limited, existing literature has predominantly examined the experiences of patients and the self-management of their fears. The present study contributes to the literature by exploring the KSAs detailed by renal nurses required

to administer care to fearful patients. The study allowed for the identification of both the already utilised approaches for mitigating fears, as well as the desire for further development of support strategies to enhance treatment delivery and patient outcomes. The KSAs identified in the present study lay the foundation for competencies necessary not only for renal nurses in working effectively with patients with needle fear, but also more broadly for other healthcare professionals required to work with patients with treatment-associated fears. Further research into the experiences of renal nurses and other healthcare professionals would contribute to the development of a more comprehensive framework of competencies required for working with fearful patients. In doing so, a list of strategies could be established and delivered as a form of continued professional development; providing a tangible tool for renal nurses to rely on as a guide for supporting patients. This tool could be further enhanced by triangulating data with the perspectives of patients regarding the management of their treatment and needle fear. As a result, patients' perceptions of care would likely be improved as the development of a set of competencies related to working with fearful patients would allow nurses to have a set of guidelines to refer to for providing care and support that extends beyond the basic requirements of nursing. Such frameworks should refer to the themes of responsibility and flexibility as outlined in the present study, using these commonly shared experiences as a guideline to inform competency-based training for renal nurses.

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**Appendix A: Interview Guide**

**INJECT Qualitative Study – Interview Guide (Dialysis Nurses)**

**Participant demographic information sheet (to collect at start of interview)**

<b>Name:</b>		<b>Age:</b>	
<b>Sex</b> <input type="checkbox"/> Male <input type="checkbox"/> Female	<b>Current position title:</b> _____ <b>Location:</b> _____ <b>Duration in current position:</b> _____ <b>Previous position(s):</b> _____		

**Needle distress**

- Can you tell me about your current position and roles & responsibilities?
- Tell me about your experience with cannulation?
- What is ‘successful’ cannulation to you?
- What do you think ‘successful’ cannulation to the patient is?
- Do you do a specific introduction to needles with patients before they start dialysis? If yes, what does it involve?
- When performing cannulation on a patient, other than the physical process, is there anything in particular you look for or notice?
- Tell me about the interaction between yourself and the patient during needling?
- Can you tell me about your experiences of managing/responding to patients’ exhibiting *[descriptor]* associated with cannulation/needling?

Prompts: How do you know if a patient is feeling *[descriptor]*?  
 How does this make you feel during the cannulation procedure?  
 How do you perceive patients’ needle fear/distress to impact their health and treatment?  
 (e.g. adherence, treatment choices, wellbeing)

- In your experience:  
 Prompts: Where does *[descriptor]* come from?  
 What can make it worse?  
 What can help to prevent it?

What can help to alleviate it?

Is there anything specific you do, or do differently, for patients with  
*[descriptor]*?

- How do you think the service/staff could better help to address patient needle fear?