Focusing on Patients: Differences Between the Practice of Expert and Non-Expert Nephrology Nurses

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Abstract

Specialisation in nursing enables a nurse to focus, in much greater depth, on the requisite knowledge and skills for providing patients with the best possible care. Nephrology nursing is one such area where specialisation has evolved. The characteristic focus of practice emerged as an important feature during a study into the process of expertise acquisition in nephrology nursing practice. Using grounded theory methodology, this study involved 6 non-expert and 11 expert nurses and took place in one renal unit in New South Wales. Nephrology nursing practice was observed for 103 hours, and this was immediately followed by semi-structured interviews. The characteristic of focus was conceptualised as the nurses' centre of attention or concentration while they were undertaking nursing activities. Focus ranged from inexperienced non-expert nurses concentrating predominantly on the immediate task at hand, experienced non-expert nurses who focussed on the medium term to expert nurses who viewed actions (and their possible consequences) more broadly and in the longer term. Of significance to nursing, is how nephrology nurses alter their focus of practice as they acquire and exercise their developing expertise in this specialty.

Key Words
Renal, Expertise, Grounded theory, Australia

Introduction

In contemporary nursing practice specialisation in one field has occurred. This enables a nurse to focus, in much greater depth, on the requisite knowledge and skills for providing patients with the best possible care. Nephrology nursing is one such area where specialisation has evolved in response to increasingly complex knowledge and technology required in the care of people with impaired renal function. This specialty occurs in primary, secondary and tertiary care settings and in the home (Tamplet Ulrich, 2006), and across a range of subspecialties such as general nephrology, haemodialysis, peritoneal dialysis and renal transplantation units (Stewart, 1997; Stewart & Bonner, 2000).

One unique aspect of nephrology nursing is that these nurses have access to and provide nursing care for people over much longer periods of time than most other nurses (Schardin, 1995; Tamplet Ulrich, 2006). For instance, haemodialysis nursing care can be provided to the same patient for four to six hours, three times per week for as long as the patient remains on haemodialysis. For some nephrology nurses and patients, this can be for many years and, in some cases, greater than twenty years. While nephrologists would also provide medical care for patients for similarly long periods, it is nephrology nurses who have much more frequent (thrice weekly versus monthly, quarterly or annually) and prolonged contact with the same patient. In comparison to all other areas where nursing care is provided to people with chronic illnesses such as psychiatric disorders, diabetes, asthma or permanently disabling conditions such as spinal cord injury; only a few other nursing specialties such as nursing the intellectually disabled or long-term residential care, has a similar amount and degree of constant contact with the same patient as does nephrology nursing. This prolonged contact with the same patient over many years (or even decades) has the advantage of enabling the establishment of long-term relationships and allows nurses to know their patients and families well.

The aims of the study were: 1) to understand the characteristics of nephrology nursing expertise and the process through which it was acquired; and, 2) to explain how expert nephrology nurse practice differed from that of non-expert nephrology nurses.

The Study

One renal unit in New South Wales, which consisted of several in-patient

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and out-patient areas; acute and chronic renal replacement services including renal transplantation; and home training facilities for haemodialysis and peritoneal dialysis patients was the site for this study. Following ethics approval by both the Area Health Service and University Human Ethics Committees, nurses who worked permanently in each of these areas were invited to participate in this study. Participants' selection were devised from existing literature (Benner, 1984; Jasper, 1994) and included formal nephrology nursing postgraduate qualification, length of experience, personal characteristics, and level of practice (Dunn et al., 2000). The final sample consisted of six non-expert nurses and eleven expert nurses. Table one summarises the demographic information about the participants.

Data Collection and Analysis

Data collection involved participant observation and semi-structured interviews based on the observational period. Thirty-two episodes (103 hours) of participant observation occurred in all areas of the renal unit and field notes were recorded during that time. Thirty-seven (24 hours) interviews followed every observational episode and information was sought from participants to clarify the focus of their nursing actions and, more importantly, their rationales for these actions were collected. Interviews were tape recorded and transcribed verbatim. Anonymity of data was achieved through the use of pseudonyms.

In grounded theory research (Glaser, 2001) data collection and analysis proceed simultaneously using the processes of substantive and theoretical coding. Initially data was collected and a line by line analysis was undertaken. The emerging codes guided subsequent data collection. Questions about the similarities and dissimilarities between expert and non-expert nephrology nursing practice were developed and explored in subsequent data collection episodes with both groups. Eventually no new categories emerged and a sense of closure of data collection (i.e. theoretical saturation) was achieved.

Table 1: Participant Demographic Information

	EXPERT (n=11)	NON-EXPERT (n=6)
Nursing Experience (all)	8 – >25 years	0.5 – 23 years
Nephrology Nursing Experience	8 – 25 years	0.25 – 21 years
Qualifications		
• Initial RN Preparation (Hospital)	9/11	2/6
• Initial RN Preparation (Tertiary)	2/11	4/6
• Nephrology Qualification	11/11	1/6
• Other	5/11	0/6
Hours worked		
• Part-time	2/11 (20 – 24 hrs/wk)	1/6 (8 hrs/wk)
• Full-time	9/11 (38 hrs/wk)	5/6 (38 hrs/wk)

Findings

The purpose of this study was to discover the structure and process of expertise acquisition and its exercise by nephrology nurses. It also sought to reveal the characteristics of expert nephrology nursing practice as well as the differences between expert practice and less expert practice. The data revealed a three stage process of expertise acquisition, namely, non-expert, experienced non-expert and expert stages (Bonner & Greenwood, 2006). Each stage consisted of four characteristics which describe how the nurse practices. These characteristics were knowledge, experience, skill and focus. This paper presents in detail the findings for the fourth characteristic of nephrology nurses' practice – focus - which was conceptualised as the nurses' centre of attention or concentration while they were undertaking nursing activities.

Narrow Focus of Practice

Non-expert nursing practice was characterised by a focus on performing the task at hand, that is, non-experts were focused on *getting the job done* rather than on the person at the receiving end of the task (i.e., the patient with a renal disorder).

> *Well here* [in the haemodialysis unit] *it's more, interacting more with machines as well you've got that interaction with the patient but its a minimum, you know a minimum, putting the patient on, taking the patient off, you know it's more with the machine and things like that* (Alexis, 1st interview).

Getting the Job Done

In order to get the work of a shift completed, the non-expert nurse is focused on completing each individual task which a nurse ought to do for the patient. These tasks included performing the dialysis treatment (e.g., setting up the machine, cannulation), administering medications, assessing and recording observations, performing wound dressings and completing fluid balance

charts. All nurses in this study were questioned about the focus of nursing care which they had provided during an observation episode. Non-expert nurses typically described their focus of attention as being devoted to completing tasks and managing their workload (i.e., time management).

> *My focus was basically to try and get the medications done and maintain all the proper charts and, you know, do fistula obs*[ervations]*, also BSL's* [blood sugar levels] *and giving insulin, and complete the fluid balances* (Helen, 1st interview).

In nephrology nursing, the majority of patients a nurse will come into contact with will have end-stage renal failure, an irreversible condition, which necessitates life-sustaining renal replacement therapy for the rest of a patient's life. As a consequence, it is not uncommon for a nephrology nurse to provide nursing care to a patient for many years, for possibly as much as twenty years. By having a *narrow focus of practice*, the non-expert nurse's view of the concept of continuity of care was different from that of both experienced non-expert nurses and expert nurses. When questioned about their understanding about continuity of care, and what it meant for their nursing practice, they invariably suggested that continuity of care lasted for a few days or for that admission to the renal unit. Even when prompted to consider that patients have a chronic illness requiring life-long treatment, non-expert nurses consistently described their focus of attention in terms of the present rather than the future.

With dialysis you can't look too far, you know, and it's day by day but with some of them that are a little bit more difficult to dialyse you probably look at them in the future, well okay say today's Tuesday and then you think…will I leave his weight till [his next dialysis on] Thursday. But the focus is mainly a day to day basis (Alexis, 1st interview).

Changing Focus of Practice

By comparison with non-expert nurses, the focus of experienced non-expert nephrology nurses had gradually changed. Their nursing practice had shifted from predominantly focusing on the task and *getting the job done* to an increased patient-focus (i.e., developing a patient focus). While the patient's well being was a focus of attention, experienced non-expert nurses were observed to be only briefly patient-focused in comparison to expert nurses. Generally, experienced non-expert nurses described their actions during interviews as being directed towards the patient but, during observation episodes, the observer's impressions were that the primary focus was on making the job easier for themselves.

> *I suppose* [I make things easier as] *I've got a bad back and I use the stool for cannulating rather than stooping over patients. I find it a lot easier. What else? I don't know I must do things that I don't even realise that make it easier easy for me to do…* (Stacey, 1st interview).

Cannulation was a common task performed by most participants in this study, and participants were asked about their focus of attention when cannulating. Non-experts were clearly concentrating on performing the task and getting the cannula in successfully, that is, they could not converse with patients during cannulation or when connecting up to the haemodialysis machine. It was only when these tasks were completed did non-expert nurses acknowledge the patient or respond to their requests. Experienced non-experts still needed to concentrate on performing the task of cannulation but could also consider how it was affecting the patient. These nurses had acquired sufficient procedural knowledge to enable them, albeit briefly, to engage in conversations with patients or respond to their requests. This is in contrast to expert nurses who did not need to concentrate on performing the cannulation and could devote their attention elsewhere (e.g., talking to the patient to calm them down) while cannulating.

The view taken by experienced non-expert nurses regarding the concept of continuity of care also explains the characteristic *changing focus of practice*. Continuity of care is a particularly important aspect of nephrology nursing practice. In the second stage of expertise acquisition, experienced non-expert nurses have broadened their previously narrow concept of continuity of care. This focus, although not as broad as that of expert nurses, was certainly wider than, for example, a patient's dialysis treatment session over one to two days. For experienced non-expert nurses, the concept of continuity of care spans a period of a few weeks to a few months. Once again, when reminded during an interview that they had provided nursing care for some patients over several years, experienced non-expert nurses described continuity of care as being over a much shorter time frame (i.e., months rather than years).

> *If you know they're having an op*[eration] *soon, or in a few weeks, you know they need to* [be] *prepared for that. So mainly* [I focus on the] *day to day but I* [also]… *think ahead* (Leonie, 2nd interview).

Being Patient-Focused

Expert nurses' focus, by comparison with other nurses in this study, was consistently on the patient as the recipient of nursing activities. Patients, according to expert nurses, were the *raison d'etre* of a renal unit. In order to be patient-focused, to consider their well-being, comfort and safety, expert nurses also believed that they needed to pay attention to other staff, particularly nursing staff, in order that they too could provide quality nursing care. *Being patient-focused* for expert nurses also included regarding the needs of the unit as a whole, as well

EPREX®
epoetin alfa

ABRIDGED PRODUCT INFORMATION

THERAPEUTIC INDICATIONS

EPREX is indicated for the treatment of patients with symptomatic or transfusion requiring anaemia associated with chronic renal failure to improve their quality of life by improving energy levels, exercise performance, fatigue and sleep patterns and by reducing the need for blood transfusions.

EPREX is also indicated in adult patients with mild-to-moderate anaemia (haemoglobin >10 to ≤13 g/dL) scheduled for elective surgery with an expected moderate blood loss (2-4 units or 900 to 1800 mL) to reduce exposure to allogeneic blood transfusion and to facilitate erythropoietic recovery.

EPREX is also indicated for the prevention and treatment of anaemia in adult patients with non-myeloid malignancies, where anaemia is anticipated to develop or develops as a result of concomitantly administered chemotherapy. EPREX is indicated to decrease the need for transfusion in patients who will continue to receive concomitant chemotherapy for a minimum of two months.

EPREX is also indicated to augment autologous blood collection and to limit the decline in haemoglobin in anaemic adult patients who are scheduled for major elective surgery and who are not expected to predeposit their complete perioperative blood needs.

CONTRAINDICATIONS

EPREX is contraindicated in patients with:

1. Uncontrolled hypertension
2. Known sensitivity to mammalian cell derived products
3. Patients scheduled for elective surgery, who are not participating in an autologous blood predeposit programme and who have severe coronary, peripheral arterial, carotid or cerebral vascular disease, including patients with recent myocardial infarction or cerebral vascular accident.
4. *Patients who develop Pure Red Cell Aplasia (PRCA) following treatment with any erythropoietin should not receive EPREX or any other erythropoietin.

Warnings

Hypertension

Hypertension develops or is aggravated in about 30% of patients with chronic renal failure (CRF) treated with EPREX while the haemoglobin is rising during the first 3 months.

The incidence of hypertension is not dose related. Patients should be closely monitored for changes in haemoglobin and blood pressure at all times, but especially during this period when such hypertensive episodes (in some cases with encephalopathy and seizures) are most likely to occur. Particular attention should be paid to sudden, stabbing, migraine - like headaches as a possible warning sign. Although hypertension has not been shown to be significantly related to the rate of rise of haemoglobin, an increase of less than 2 g/dL per month is recommended.

If blood pressure begins to increase or is accompanied by headache, aggressive antihypertensive treatment should be used with antihypertensive medication and, where indicated, fluid removal by an appropriate method. In cases where rise in blood pressure is difficult to control, the patients should be admitted to hospital or clinic until their blood pressure is controlled. EPREX should be stopped. The haemoglobin concentration may subsequently decrease by approximately 0.4 g/dL weekly.

Seizures

Seizures have occurred in patients with CRF receiving EPREX with a frequency of from 3 to 7%, usually during the first 90 days of treatment. Blood pressure and premonitory neurological symptoms should be closely monitored. Patients should be cautioned to avoid potentially hazardous activities such as driving or operating heavy machinery during this period.

Thrombotic Events

During haemodialysis, patients treated with EPREX may require an increase in dialysis heparin to prevent clotting the dialyser. In patients receiving EPREX, clotting of the vascular access has occurred in 13% of patients in some series. Shunt thrombosis may occur, especially in patients who have a tendency to hypotension or whose arteriovenous fistulae exhibit complications (e.g. stenoses, aneurisms). Early shunt revision and thrombosis prophylaxis by administration of acetylsalicylic acid, for example, is recommended in these patients.

Thrombotic/vascular events such as myocardial ischaemia, myocardial infarction, cerebrovascular accidents, (cerebral haemorrhage and cerebral infarction), transient ischaemic attacks, deep venous thrombosis, arterial thrombosis, pulmonary emboli, aneurysms, retinal thrombosis and clotting of an artificial kidney have been reported in patients receiving EPREX.

Thrombotic vascular events can occur in cancer patients as a consequence of their disease, comorbidities, and treatment thereof. An increased incidence of such events has been observed in patients receiving erythropoietic agents, including patients receiving EPREX.

PRECAUTIONS

EPREX should be used with caution in those patients with pre-existing hypertension, ischaemic vascular disease, history of seizures, or suspected allergy to any components of the product, porphyria or gout.

In chronic renal failure patients, pure red cell aplasia (erythroblastopaenia) has been rarely reported after months to years of treatment with erythropoietins. In most of these PRCA patients antibodies to erythropoietins have been reported. In patients developing sudden lack of efficacy typical causes of non-response should be investigated. If no cause is identified, a bone marrow examination should be considered. If pure red cell aplasia (PRCA) is diagnosed, EPREX must be immediately discontinued and testing for anti-erythropoietin antibodies should be considered. If antibodies to erythropoietin are detected, patients should not be switched to another erythropoietin product as anti-erythropoietin antibodies cross-react with other erythropoietins. Other causes of pure red cell aplasia should be excluded, and appropriate therapy instituted.

In patients with chronic renal failure and clinically evident ischaemic heart disease or congestive heart failure, maintenance haemoglobin concentration should not exceed the upper limit of the target haemoglobin concentration as recommended under Dosage and Administration (i.e. 11.5 g/dL).

In patients with anaemia scheduled for surgery, potentially correctable anaemia should be investigated and appropriately treated before using EPREX.

The possibility of potential pregnancy should be discussed and the need for contraception evaluated.

There may be a moderate dose-dependent rise in the platelet count within the normal range during treatment with EPREX. This regresses during the course of continued therapy. Development of thrombocytosis is very rare. It is recommended that the platelet count is regularly monitored during the first 8 weeks of therapy.

Renal Dialysis

Correction of anaemia with EPREX does not appear to affect dialysis efficiency. However, an increase in appetite could lead to increased potassium intake and hyperkalaemia in both dialysis and pre-dialysis patients. This and other alterations in serum chemistry should be managed by dietary alterations and modifications of the dialysis prescription if appropriate.

Increased serum uric acid may occur in patients whose haemoglobin is rising more than approximately 2 g/dL per month Consequently EPREX should be used with caution in patients with a history of gout.

The safety and dosage regime of EPREX has not been established in the presence of hepatic dysfunction.

Use in Children

Efficacy: Clinical trials of EPREX in children supported the following effects – correction of anaemia; reduction or elimination of transfusion-requirements; improvement of the bleeding tendency in uraemia; increased weight and appetite; and the reduction of cytotoxic antibodies. Possible but not conclusive effects were an improvement in exercise capacity and short term cardiovascular effects. Long-term cardiovascular effects, effects on growth rate, improved prospects for renal transplantation, and improved quality of life were unproved.

Safety: Incomplete information is available, particularly on the rate of change of haemoglobin and blood pressure.

Dose: Available data supports a dose of 25 IU/kg three times a week rather than 50 IU/kg three times a week.

DOSAGE REGIMENS AND ROUTES OF ADMINISTRATION

As a single anaphylactic reaction was observed in one patient during the course of clinical testing, it is recommended that the first dose be administered under medical supervision.

Use in Chronic Renal Failure

In patients with chronic renal failure where intravenous access is routinely available (haemodialysis patients) administration of EPREX by the intravenous route is preferable. Where intravenous access is not readily available (patient not yet on dialysis and peritoneal dialysis patients) EPREX may be administered subcutaneously.

In patients maintained on haemodialysis, EPREX should always be administered after completion of dialysis..

Treatment with EPREX is divided into two stages:

Correction Phase: The initial dosage is 50 IU/kg body weight three times a week IV/SC. If haemoglobin does not increase by 1 g/dL after 1 month of treatment, the dosage may be raised to 75 IU/kg three times per week – and if further increments are needed they should be at 25 IU/kg, three times per week, at monthly intervals, to achieve a haemoglobin between 10 and 11.5 g/dL. This level should not be exceeded in patients with chronic renal failure and clinically evident ischaemic heart disease or congestive heart failure. If dose reduction is needed, the amount given per dose should be reduced or the number of weekly injections reduced or both. The maximum dosage should not exceed 3 x 200 IU/kg per week.

Maintenance Phase: The IV/SC dose has to be adjusted individually to maintain a haemoglobin between 10 and 11.5 g/dL.

The maintenance dose should be individualised for each chronic renal failure patient. The recommended total weekly dose is between 75 and 300 IU/kg.

For patients who are converted from the subcutaneous to intravenous route, the same dose should be used, and the haemoglobin should be followed carefully (egg weekly) so that appropriate changes in EPREX dose can be made to keep haemoglobin within the target range.

Evaluation of Iron Status

Iron status should be assessed in all patients prior to therapy. Further monitoring of serum iron, ferritin and total iron binding capacity is indicated monthly for the first three months of therapy and three monthly thereafter. Virtually all patients will eventually need supplemental iron therapy.

Delayed or Diminished Response

Delayed or diminished response to EPREX therapy should prompt a search for causative factors such as iron, folate or vitamin B12 deficiency; aluminium intoxication; intercurrent infections; inflammatory or traumatic episodes; occult blood loss; haemolysis; and bone marrow fibrosis of any origin.

Use in Pre-surgical Anaemia

The subcutaneous route of administration should be used.

The recommended dose regimen is 600 IU/kg EPREX given weekly for three weeks (Days -21, -14, and -7) prior to surgery and on the day of surgery. In cases where there is a medical need to shorten the lead time before surgery to less than three weeks, 300 IU/kg EPREX should be given daily for 10 consecutive days prior to surgery, on the day of surgery, and for four days immediately thereafter. The administration of EPREX should be stopped as soon as the haemoglobin level reaches 15 g/dL in the preoperative period, even if not all the planned EPREX doses have been given.

All patients being treated with EPREX should receive adequate iron supplementation (eg, 200mg oral elemental iron daily) throughout the course of EPREX treatment. If possible, iron supplementation should be started prior to EPREX therapy, to achieve adequate iron stores.

Use in Anaemic Adult Surgery Patients in an Autologous Predonation Programme

The intravenous route should be used. The recommended does is 300-600 IU/kg twice weekly for three weeks, together with at least 200mg oral elemental iron daily.

Use in Cancer Anaemia

The initial dose is 150 IU/kg given subcutaneously 3 times per week. If the haemoglobin has increased by at least 1 g/dL (0.62 mmol/L) or the reticulocyte count has increased ≥40,000 cells/microlitre above baseline after 4 weeks of treatment, the dose should remain at 150 IU/kg. If the haemoglobin increase is <1 g/dL (<0.62 mmol/L) and the reticulocyte count has increased <40,000 cells/microlitre above baseline, increase the dose to 300 IU/kg. If after an additional 4 weeks of therapy at 300 IU/kg, the haemoglobin has increased ≥1 g/dL (≥0.62 mmol/L) or the reticulocyte count has increased ≥40,000 cells/microlitre the dose should remain at 300 IU/kg. However, if the haemoglobin has increased <1 g/dL (<0.62 mmol/L) and the reticulocyte count has increased <40,000 cells/microlitre above baseline, response is unlikely and treatment should be discontinued.

A rate of rise in haemoglobin of greater than 2 g/dL (1.25 mmol/L) per month or haemoglobin levels of >12 g/dL (>8.7 mmol/L) should be avoided. If the haemoglobin is rising by more than 2 g/dL (1.25 mmol/L) per month, reduce EPREX dose by about 25-50% depending upon the rate of rise of haemoglobin. If the haemoglobin exceeds 12 g/dL (8.7 mmol/L), discontinue therapy until it falls below 12 g/dL (7.5 mmol/L) and then reinstitute EPREX at a dose 25% below the previous dose.

Iron status should be assessed in all patients prior to therapy. Further monitoring of serum iron, ferritin and total iron binding capacity is indicated monthly for the first three months of therapy and three monthly thereafter. Virtually all patients will eventually need supplemental iron therapy.

EPREX can be administered either intravenously or subcutaneously, according to indication. For patients who are converted from the subcutaneous to intravenous route, the same dose should be used, and the haemoglobin should be followed carefully (e.g. weekly) so that appropriate changes in EPREX dose can be made to maintain haemoglobin levels within the target range.

Administration Instructions

Parenteral drug products should be visually inspected for particulate matter and discolouration prior to administration. Product exhibiting particulate matter or discolouration must not be used.

Prepare EPREX for IV/SC injection by drawing solution into a syringe from the single use vial. Attach needle for IV/SC injection. Alternatively, use the pre-filled syringe presentation.

Administer as IV/SC injection over 1-2 minutes. In patients on dialysis the injection should follow the dialysis procedure. Slow injection over 5 minutes may be beneficial to those who experience flu-like symptoms.

Do not administer by intravenous infusion or in conjunction with other drug solutions.

For subcutaneous route a maximum volume of 1 ml at one injection site should generally not be exceeded. In case of larger volumes, more than one site should be chosen for the injection. Subcutaneous injections are given in the limbs or the anterior abdominal wall.

SPECIAL PATIENT GROUPS

Use In Pregnancy: Category B3

The drug is classed as Category B3. EPREX should be administered during pregnancy only if clearly needed. It is not known whether r-HuEPO crosses the placenta or whether it can cause foetal harm when administered to a pregnant woman. Animal studies have shown no evidence of teratogenic activity in rats or rabbits at r-HuEPO dosages up to 55 IU/kg/day administered intravenously. However, intravenous administration of r-HuEPO at dose levels of 20-500 IU/kg/day in rats causes decreased fertility, increased pre-and post-implantation loss, decreased foetal weight and retardation of ossification.

INTERACTIONS

There are no known clinically significant drug interactions but the effect of EPREX may be potentiated by the simultaneous therapeutic administration of a haematinic agent such as ferrous sulphate when a deficiency state exists. Since cyclosporin is bound by red blood cells there is potential for a drug interaction. If EPREX is given concomitantly with cyclosporin, blood levels of cyclosporin should be monitored and the dose of cyclosporin adjusted as the haematocrit rises.

ADVERSE EFFECTS

In patients studied to date, EPREX has been generally well tolerated. Reactions attributable to EPREX were flu-like symptoms, bone pain and chills (incidence 7.6%) occurring within several hours of administration, and allergic reactions such as mild skin rashes and urticaria (incidence 2.2%). *Isolated cases of angioedema and anaphylactic reactions have been observed. There have been rare reports of potentially serious reactions associated with respiratory symptoms and hypotension. In chronic renal failure patients, pure red cell aplasia (erythroblastopaenia) has been rarely reported after months to years of treatment with erythropoietins.

In a placebo controlled trial in 117 pre-dialysis patients, the incidences of adverse effects were 23 and 19% (hypertension), 17 and 16% (headache), 15 and 13% (arthralgia) and 14 and 16% (oedema) in treated and placebo patients respectively. These differences were not statistically significantly different.

Reactions attributed to the increased red cell mass produced by EPREX include hypertension, seizures and thrombotic events (See Warnings).

In an investigational study with metastatic breast cancer, intended to determine whether erythropoeitin treatment, beyond the correction of anaemia (i.e. maintaining haemoglobin levels between 12 and 14g/dL), could improve treatment outcomes, the overall mortality, mortality attributed to disease progression, and incidence of fatal thromboembolic events were all higher in patients receiving Epoetin alfa than in the placebo group. The clinical relevance of these findings to the treatment of anaemia (i.e. maintaining haemoglobin levels no higher that 12g/dL) is uncertain.

PRESENTATION

EPREX is a sterile preservative-free phosphate buffered protein solution of Epoetin alfa (rch) in pre-filled syringes of 1000 IU in 0.5 mL, 2000 IU in 0.5 mL, 3000 IU in 0.3 mL, 4000 IU in 0.4 mL, 5000 IU in 0.5 mL, 6000 IU in 0.6 mL, 8000 IU in 0.8 mL, 10,000 IU in 1.0 mL, 20,000 IU in 0.5 mL and 40,000 IU (336 µg) in 1 mL. The formulation is stabilised with glycine (5 mg/mL) and polysorbate 80 (0.30 mg/mL).

The formulations also contain sodium chloride at 1.7-5.8 mg, sodium phosphate monobasic dihydrate at 0.35-1.16 mg and sodium phosphate dibasic dihydrate at 0.67-2.22 mg. The formulations contain sodium citrate at less than 5 mmol.

Each package contains 6 pre-filled syringes (except 40,000 IU, where a single prefilled syringe is sold).

Full product information is available on request.

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TGA Date of Approval 23rd June, 2005.

3,000,000 patient years and counting

EPREX® subcutaneous administration is available again. So now you have the choice of administering EPREX – the erythropoietin that revolutionised the treatment of anaemia in renal failure, cancer and surgery[1-4] – through SC or IV injection. With over 3 million patient years of experience,[5] EPREX has more than proven its ability to provide a better quality of life.[6]

EPREX® epoetin alfa

TGA Approved Product Information June 2005: 'Where IV access is routinely available (haemodialysis patients), administration via the IV route is preferable. Where IV access is not readily available (patients not yet on dialysis and peritoneal dialysis patients), EPREX may be administered subcutaneously.'

PBS Information: S100 Private Hospital Authority Required. Treatment of anaemia requiring transfusion, defined as a haemoglobin level of less than 100 g per L, where intrinsic renal disease, as assessed by a nephrologist, is the primary cause of anaemia.

Before prescribing, please note changes to Approved Product Information found elsewhere in this publication.

PBS dispensed price: 1000 IU in 0.5 mL (6) $147.00; 2000 IU in 0.5 mL (6) $272.00; 3000 IU in 0.3 mL (6) $351.00; 4000 IU in 0.4 mL (6) $447.00; 5000 IU in 0.5 mL (6) $556.50; 6000 IU in 0.6 mL (6) $660.60; 8000 IU in 0.8 mL (6) $856.80; 10,000 IU in 1.0 mL (6) $1037.00; 20,000 IU in 0.5 mL (6) $2040.00; 40,000 IU in 1.0 mL (1) $660.00. 1. Jelkman W. Physiol Reviews 1992;72(2):449-489. 2. Fisher JW. Erythropoietin 1997:358-366. 3. Nowrousian MR. Med Oncol 1998;15(1):S19-S28. 4. Stowell CP, et al. Orthopedics 1999;22(1):S105-S112. 5. Winearls CJ. Nephrol Dial Transplant 1998;13(Suppl 2):3-8; plus data on file, Janssen-Cilag Australia. 6. McDougall C. Semin Oncol 1998;25(3 Suppl 7):39-42. EPREX® is the registered trademark of Janssen-Cilag Pty Ltd for epoetin alfa SC/IV injections. Janssen-Cilag Pty Ltd, ABN 47 000 129 975, 1-5 Khartoum Road, North Ryde NSW 2113. ©J-C 2006 02/06 JAN0847/CJB

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as considering the needs for individual patients.

> *I mean basically it all centres around the patient, without the patient you've got no unit, no staff, no anything, so yes, it is I mean, central to your nursing has to be the patient and everything you do for in terms of planning and staffing and managing, everything basically in the end comes back to patient centred practice and some things are less direct than others, I mean you do things for your staff but in the end you do things for your staff to keep them happy, educated and whatever so they're still there to look after the patients* (Prue, 3rd interview).

Expert nurses did not need to devote considerable cognitive attention to performing tasks, and this allowed them to focus on patients. Their practice was solely directed towards providing quality nursing care to people with renal dysfunction. *Being patient- focused* consisted of three dimensions. These were *being there, keeping a close eye on,* and *protecting the patient*.

Being There

Being there was a strategy employed by expert nurses which demonstrated just how focused they were on patients and the unit:

> *I suppose my example has to be of some use somewhere along the line in that I work hard and I try to work so that things are better for the patients and I'd rather make them good for the staff as well…I don't know but I suppose there's strengths in being reliable and being there which are awfully important for both staff and patients* (Prue, 3rd interview).

Expert nurses also see themselves as *being there* for patients over protracted periods of time. In contrast to either non-expert or experienced non-expert nurses, expert nurses viewed continuity of care over a much longer period (i.e., years rather than months or weeks); for some nurses, they could provide nursing care for the same patient for many years.

> *With these patients, I think it is because they are chronic patients and they are part of our unit for however long they live in the area or live themselves and I think we have a responsibility for their care right throughout that time* (Fran, 2nd interview).

Continuity of care can be provided for "some of the patients [because] I've known them for 25 years and you're still caring for them" (Sandra, 2nd interview). While a person is receiving dialysis therapy, they need on-going medical and nursing care. One expert nurse described it as pointless to put a person on dialysis and then forget about them "…so the care doesn't stop when the patient goes home, the care must continue for the long term, years" (Fran, 2nd interview).

Keeping a Close Eye On

Non-expert nurses revealed during interviews that they needed to concentrate on performing the task rather than on the patient's response to that task. Expert nurses, by comparison, described their practice as keeping a close eye on the patient as a strategy for preventing problems during dialysis treatment sessions. For instance, Theresa, an expert nurse, described how she monitored a patient's response to an altered dialysis prescription.

> *I tend to do turn the* [dialysate] *temperature down and the* [dialysate] *sodium up a little bit and just keep an eye on them…so they don't drop their blood pressure while I'm taking fluid off* (Theresa, 1st interview).

Protecting the Patient

With patients as the central focus of practice, expert nurses initiated several strategies to protect vulnerable patients from receiving nursing care from inexperienced nurses. All nurses in the haemodialysis units in the study repeatedly identified particular patients who they were, or were not, permitted to cannulate. Similarly, in the transplant unit, inexperienced nurses were not permitted to provide immediate post-renal transplant nursing care (i.e., for the first 24 hours) without direct supervision from a more experienced nurse. In both situations, expert nurses allocated inexperienced nurses to patients who were "at the appropriate level" for their clinical abilities. This, clearly, was a strategy used to protect patients to ensure that they received the best available nursing care.

DISCUSSION

This study has increased understanding of what a nurse, at various stages of expertise acquisition, focuses on when giving nursing care. Specifically, it provided evidence of a nurse's focus of attention and how this changed as the nurse acquired expertise in nephrology nursing. Non-expert nurses were task-focused because they had not yet learnt or developed adequate procedural knowledge to assist them to perform new tasks, or similar tasks in a new environment. Non-expert nurses were task-focused because they had not yet learnt or developed adequate procedural knowledge to assist them to perform new tasks, or similar tasks (i.e. general, common routine nursing task) in a new environment. Experienced non-expert nurses had proceduralised much of the general routine practice required of a nephrology nurse and this had freed up some of their attention for deployment to other, less familiar task situations. This provided them with additional time to think about and plan their actions; typically, their planning focused on making things easier for themselves. Expert nurses, by comparison, were entirely focused on the provision of optimal nursing care to people with renal disorders. Their focus of attention was the patient but this did not exclude

attention to other nurses. Expert nurses simultaneously devoted attention to the ways other nurses practiced in order to guide and support them to ensure that all nurses in the renal unit provided optimal nursing care. This finding is consistent with Ashwanden (2004) who suggests that care of renal nursing staff is important and conducive to quality patient care.

There is considerable literature which suggests that novice nurses are predominantly task-focused. For instance, Coulon et al. (1996) identified that a characteristic of undergraduate (i.e., pre-registration) nursing students is task-oriented nursing care. Little (2000) also found that nurses with one to three years experience in nursing who were undertaking a critical care course were task-focused, that is, they were not expert nurses, and they all needed to focus on the equipment which they were required to use (Little, 2000). Nurses with less experience in critical care nursing directed their attention to the performance of tasks or on equipment, rather than the patient. This study's findings on non-expert nephrology nursing practice concur with Little's study. Non-expert nurses, when specifically asked about their focus of nursing, invariably indicated that completing the tasks and interacting with the dialysis machinery were central to their practice. This is in contrast to expert critical care nurses who seamlessly integrate technology into everyday practice (Cooper, 1993; Walters, 1995). Similarly, Radwin (1998) found that expert cardiology nurses are more likely to focus on the patient in a given situation rather than on equipment, technical factors or tasks.

Being patient-focused required the nurse to move beyond a limited concept of individualised care, where the nurse provides choices concerning, for example, hygiene and wake-up times. Being patient-focused means the nurse strives to provide nursing care and services which are compatible with a patient's needs, values and beliefs (Ford & McCormack, 2000). The essential elements of patient-focused care, according to Kitson (1999) are essential care, technological care, psychosocial/emotional care, information and education, continuity and coordination.

Although the nursing literature contains evidence of the concept of patient-focused or patient-centred nursing care (see for example Bradshaw, 1996; Ford & McCormack, 2000; Lutz & Bower, 2000), only three previous articles were found which either implicitly or explicitly suggested that expert nurses delivered patient-focused nursing care to individual patients (Benner, 1984; Brown, 1992; Brown & Tiavale, 1996; Edwards, 1998). In addition, Kitwood and Bredin (1992) suggest that patient-focused practice can be achieved if the nurse places at the centre of all decisions/actions the desire to maintain/improve patient wellbeing. Expert nephrology nurses, in the present study, did exactly that. The concept of *being patient-focused* meant that expert nurses viewed the person with renal failure as central to their practice in a desire to provide quality, continuing nursing. Non-expert nurses, by comparison, were more focused on *getting the job done* and completing all necessary tasks.

The present study elaborates our understanding of the concept *being there* as an important component in the provision of quality nursing care. *Being there* was a strategy expert nephrology nurses employed to be patient-focused. By having a reliable presence in the renal unit, these nurses believed that, through their expertise, events, issues or situations would be managed so that patients received quality nursing care. *Being there*, in addition, was related to expert nurses' provision of continuity of care to patients.

The concept of *being there*, as a feature of expert nursing practice, has been previously described (Cohen, Hausner & Johnson, 1994; Gilje, 1992). In a phenomenological study of the patient's experience of nursing, Wallace and Appleton (1995) found that *being there* was attributed by patients when the nurse had a willingness to connect and become involved with them. Strategies nurses used to demonstrate *being there* were commitment, compassion and competent practice. Wallace and Appleton further suggest that by *being there*, nurses came to know their patients, respected and valued them as individuals in order to assist patients' to restore or manage their well-being. Bevan (1998), in an analysis of caring in dialysis units, suggests that dialysis nurses identify *being there* as an element of caring.

The present study describes an alternate construct of continuity of care with respect to recent literature. Nephrology nurses variously construed continuity of care as the short, intermediate and long-term goals or needs of people with renal failure. At best, the present literature suggests that the concept of continuity of care could be described as a process over time which requires coordination and transfer of information between numerous people and across several settings (Sparbel & Anderson, 2000a, b).

Nephrology nurses viewed continuity of care differently during this study. Depending on their stage of expertise acquisition, non-expert nurses viewed it as the immediate needs of the patient, spanning a few days. Experienced non-expert nurses considered continuity of care in terms of a few weeks to months. Expert nurses, in contrast, viewed it over many years. Expert nurses had acquired more knowledge and experience in nursing people with renal disorders; they recognised that not only that these people required long-term renal replacement therapy (RRT) but also that RRT has long-term consequences. Expert nurses, because they had developed a patient-focused approach to their nursing care, were able

to assess for and institute management strategies to reduce the effects of long-term RRT complications. One strategy these nurses used in the provision of continuity of care was to act as a conduit of information between the patient, other nurses, medical staff and other health care workers (e.g., dietitian, social worker) in an attempt to ensure that issues were managed appropriately and in a timely way for the patient. The aim of expert nurses was to ensure that patients could be kept in the best possible health for the longest period of time. It is important, therefore, that strategies are put in place in renal units to ensure that expert nurses are kept in clinical positions which have direct patient contact and responsibility.

Study limitations

This study was designed to be exploratory, descriptive, and theory-generating. Consistent with qualitative research, the sample size was small and the context confined to one renal unit; data collection, however, was extensive and, according to grounded theory research, reached theoretical saturation. However, the findings may be applicable to other nephrology nurses, other renal units or more widely in other fields of nursing.

CONCLUSION

Whilst the larger study sought to gain an understanding of the acquisition and exercise of nephrology nursing expertise, the characteristic of focus in the practice of these nurses was a significant finding. Non-expert nurses had a narrow focus of practice which was related to getting the job done, and experienced-non experts' focus was changing towards the patient and for the medium term. Only expert nurses were actually patient focussed, and this was evidenced by the way, in which they were actively being there in the unit, keeping a close eye on, and protecting the patient. The findings of this study explicitly reveal that focus is important to quality renal care.

REFERENCES

Ashwanden C. (2004) Care for staff in renal care. In *Advanced renal care* (N. Thomas, Ed.). Blackwell Science, Oxford, pp. 231-249.

Benner P. (1984) *From novice to expert: excellence and power in clinical cursing practice*. Addison-Wesley, Menlo Park, California.

Bevan M. (1998): Nursing in the dialysis unit: technological enframing and a declining art, or an imperative for caring. *Journal of Advanced Nursing*, 27, 730-736.

Bonner A. & Greenwood J. (2006). Acquisition and exercise of nephrology nursing expertise: A grounded theory study. *Journal of Clinical Nursing*; 15, 480-489.

Bradshaw A. (1996) Recovering the covenant tradition of patient-centred nursing. In *Essential practice in patient-centred care* (K.W.M. Fulford, S. Ersser & T. Hope, Eds.), Blackwell Science, Oxford, pp. 22-35.

Brown S J. (1992): Tailoring nursing care to the individual client: empirical challenge of a theoretical concept. *Research in Nursing and Health*, 15(1), 39-46.

Brown S. & Tiavale M. (1996): The neurosurgical nurse expert: myths and realities. *Australasian Journal of Neuroscience*, 9(3), 4-9.

Cohen MZ., Hausner J. & Johnson M. (1994): Knowledge and presence: accountability as described by nurses and surgical patients. *Journal of Professional Nursing*, 10, 177-185.

Cooper MC. (1993). The intersection of technology and care in the ICU. *Advances in Nursing Science*, 15(3), 23-32.

Coulon L., Mok M., Krause KL. & Anderson M. (1996). The pursuit of excellence in nursing care: What does it mean? *Journal of Advanced Nursing*, 24, 817-826.

Dunn SV., Lawson D., Robertson S., Underwood M., Clark R. & Valentine T. (2000): The development of competency standards for specialist critical care nurses. *Journal of Advanced Nursing*, 31, 339-346.

Edwards B. (1998): A & E nurses' constructs on the nature of nursing expertise: a repertory grid technique. *Accident and Emergency Nursing*, 6, 18-23.

Ford P. & McCormack B. (2000): Keeping the person in the centre of nursing. *Nursing Standard*, 14, 40-44.

Gilje F. (1992) Being there: An analysis of the concept of presence. *In The presence of caring in nursing* (D.A. Gaut, ed.). National League for Nursing Press, New York, pp. 53-67.

Glaser BG. (2001) *The grounded theory perspective: conceptualization contrasted with description* Sociology Press, Mill Valley, California.

Jasper MA. (1994): Expert: a discussion of the implications of the concept as used in nursing. *Journal of Advanced Nursing*, 20, 769-776.

Kitson A. (1999): The essence of nursing. *Nursing Standard*, 13(23), 42-46.

Kitwood T. & Bredin K. (1992): A new approach to the evaluation of dementia care. *Journal of Advances in Health and Nursing Care*, 1(5), 41-60.

Little C. (2000). Technology competence as a fundamental structure of learning in critical care nursing: A phenomenological study. Journal of Clinical Nursing, 9(3), 391-399.

Lutz BJ. & Bowers BJ. (2000): Patient-centred care: understanding its interpretation and implementation in health care. *Scholarly Inquiry for Nursing Practice*, 14(2), 165-186.

Radwin L. (1998). Empirically generated attributes of experience in nursing. *Journal of Advanced Nursing*, 27, 590-595.

Schardin KE. (1995): Scope of practice for nephrology nursing. *American Nephrology Nurses' Association Journal*, 22, 413-415.

Sparbel KJH. & Anderson MA. (2000a): Integrated literature review of continuity of care: Part 1, conceptual issues. *Journal of Nursing Scholarship*, 32(1), 17-24.

Sparbel KJH. & Anderson MA. (2000b): A continuity of car integrated literature review, Part 2: Methodological issues. *Journal of Nursing Scholarship*, 32(2), 131-135.

Stewart G. (1997): Specialisation in nursing: implications in Australia. *European Dialysis and Transplant Nurses Association/European Renal Care Association (EDTNA/ERCA) Journal*, XXIII, 38-40, 49.

Stewart G. & Bonner A. (2000): Competency based standards for advanced practice in nephrology nursing. *European Dialysis and Transplant Nurses Association/European Renal Care Association (EDTNA/ERCA) Journal*, XXVI, 50-54.

Tamplet Ulrich B. (2006) Nephrology nursing as a specialty. In *Contemporary nephrology nursing*. (2nd edition). (AE. Molzahn & E. Butera eds.). American Nephrology Nurses' Association, New Jersey, pp. 3-25.

Wallace C. & Appleton C. (1995): Nursing as the promotion of well-being: the client's experience. *Journal of Advanced Nursing*, 22, 285-289.

Walters AJ. (1995). Technology and the lifeworld of critical care nursing. *Journal of Advanced Nursing*, 22, 338-346.