

RELATIONSHIP BETWEEN PROFESSIONAL PROFILE OF INTENSIVE CARE NURSES AND MISSED CARE IN HEMODIALYSIS THERAPY

RELAÇÃO ENTRE PERFIL PROFISSIONAL DE ENFERMEIROS INTENSIVISTAS E CUIDADOS OMISSOS NA TERAPIA POR HEMODIÁLISE

RELACIÓN ENTRE PERFIL PROFESIONAL DE ENFERMEROS DE CUIDADOS INTENSIVOS Y OMISIÓN DE CUIDADOS EN LA TERAPIA DE HEMODIALISIS

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ABSTRACT

Objective: to verify the relationship between professional profile of intensive care nurses and omitted care in hemodialysis therapy. **Method:** observational study conducted between June and September 2016 in intensive care units of two hospitals. The sample consisted of 30 nurses. For data collection, we used an instrument, built for the research, with data from the professional profile of nurses and checklist with activities of the intervention "hemodialysis therapy", proposed by Nursing Interventions Classification. The data were analyzed using descriptive statistics and, for correlation, it was used chi-square and exact Fisher. **Results:** the items with the most omitted care were: checking equipment, solutions and extracorporeal circuit (90%); reviewing blood biochemistry (83.3%); checking system monitors (83.3%); and establishing protocols for hypotension (83.3%). And the professional factors that most related to omitted care were Nephrology training (80%), type of employment relationship (73.33%) and specialization in intensive care (66.66%). **Conclusions:** it was found that the evaluations produced here should support the reflection on care and management practices of intensive nurses in the search for better quality and safety care for patients with acute renal failure in intensive care units. It was also observed that the results are directly linked to the improvement of personal adequacy and physical and human resources.

Keywords: Nursing Care; Renal Dialysis; Risk Management; Quality of Health Care; Patient Safety.

RESUMO

Objetivo: verificar a relação entre perfil profissional de enfermeiros intensivistas e os cuidados omissos na terapia por hemodiálise. **Método:** estudo observacional realizado entre junho e setembro de 2016 em unidades de terapia intensiva de dois hospitais. A amostra foi composta de 30 enfermeiros. Para a coleta de dados utilizou-se um instrumento com dados do perfil profissional dos enfermeiros e checklist com atividades da intervenção "terapia por hemodiálise", propostos pela Nursing Interventions Classification, construído para a pesquisa. Os dados foram analisados por meio da estatística descritiva e, para correlação, qui-quadrado e exato de Fisher. **Resultados:** os itens com mais cuidados omissos foram: checar equipamento, soluções e circuito extracorpóreo (90%); revisar bioquímica do sangue (83,3%); checar monitores do sistema (83,3%); e instituir protocolos para hipotensão (83,3%). E os fatores profissionais que mais obtiveram relação com os cuidados omissos foram a capacitação em Nefrologia (80%), tipo de vínculo empregatício (73,33%) e especialização em terapia intensiva (66,66%). **Conclusões:** constatou-se que as avaliações aqui produzidas devem subsidiar a reflexão das práticas assistenciais e gerenciais de enfermeiros intensivistas na busca de melhor qualidade e segurança para o cuidado ao paciente com insuficiência renal aguda em unidades de terapia intensiva. Observou-se, ainda, que os resultados apurados estão atrelados diretamente para a melhoria da adequação pessoal e de recursos físicos e humanos.

Palavras-chave: Cuidados de Enfermagem; Diálise Renal; Gestão de Riscos; Qualidade da Assistência à Saúde; Segurança do Paciente.

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RESUMEN

Objetivo: verificar la relación entre el perfil profesional de los enfermeros de cuidados intensivos y la omisión de cuidados en la terapia de hemodiálisis. **Método:** estudio observacional realizado entre junio y septiembre de 2016 en unidades de cuidados intensivos de dos hospitales. La muestra consistió en 30 enfermeros. Para la recogida de datos se utilizó un instrumento con datos del perfil profesional y la lista de verificación con actividades de intervención "terapia de hemodiálisis", propuesta por la Nursing Interventions Classification creada para la investigación. Los datos se analizaron mediante estadística descriptiva y, para la correlación, chi-cuadrado y exacto de Fisher. **Resultados:** los puntos con más omisión de cuidados fueron: verificar equipos, soluciones y circuito extracorpóreo (90%); revisar bioquímica sanguínea (83,3%); verificar los monitores del sistema (83,3%); e instituir protocolos para la hipotensión (83,3%). Los factores profesionales más relacionados con la falta de cuidados fueron capacitación en Nefrología (80%), tipo de vínculo laboral (73,33%) y especialización en cuidados intensivos (66,66%). **Conclusiones:** estas evaluaciones deberían fomentar la reflexión en las prácticas asistenciales y gestión de enfermeros de cuidados intensivos en la búsqueda de una mejor calidad y seguridad para la atención de pacientes con insuficiencia renal aguda en unidades de cuidados intensivos. También se observó que los resultados están directamente relacionados para mejorar la adecuación personal y los recursos físicos y humanos.

Palabras clave: Atención de Enfermería; Diálisis Renal; Gestión de Riesgos; Calidad de la Atención de la Salud; Seguridad del Paciente.

INTRODUCTION

The performance of the intensive care nurse is of paramount importance for patients with acute kidney injury (AKI). It goes from the early detection of AKI for a good prognosis of its clinical evolution to hemodialysis care. Nursing interventions in relation to dialysis patients consist of hydroelectrolytic monitoring; intervention in complications; evaluation of laboratorial examinations; operational management of machines, solutions and system monitors; evaluation and evolution of the patient to treatment and providing physical and emotional support to patients and their families, among others.^{1,2}

This monitoring involves early detection of signs of hypoperfusion, and the follow-up of serum urea and creatinine dosages and water balance. In intensive care units (ICU), nurses should be constantly vigilant, since AKI develops abruptly by reducing the glomerular filtration rate.³

Given the multiplicity tasks on Nursing care and scarcity of resources, in some situations the staff feels unable to implement the Nursing care planning to patients, and sometimes end up abbreviating, delaying or even omitting it.⁴ Omission of Nursing care, known in English as missed Nursing care, is a common, universal problem that occurs frequently due to complex and numerous factors.^{4,5}

Missed Nursing care has been associated with negative results for patients, such as: pressure injury, medication errors, falls,

infections⁴, readmissions⁶ and even death⁷. Nursing care failing also impacts the psychological status of Nursing professionals, as it generates dissatisfaction, increased intention to quit employment and burnout syndrome⁸. This outcome has occurred for reasons more frequently related with human resources, material resources and communication⁹, work environment⁶, workload, educational level and professional satisfaction.⁸

Studies show that there are factors that may be contributors or participants for omission of care. These include age, gender, time and work shift, type of employment relationship, specialization in the area of activity, environmental aspects (light, temperature, noise level), inter and intrapersonal relationships, among others¹⁰

In this context, nurses' challenge is to use scientific initiatives to examine and mitigate the occurrence of this type of incident in their practice. It is believed that the identification, analysis and transparent discussion on missed Nursing care can assist in institutional risk management as an important indicator of quality¹¹ and in the construction of the necessary safety culture, as a high-risk "early warning" for patients' negative outcomes.⁷ Studies related to missed Nursing care on hemodialysis may indicate pathways and solutions to prevent this type of failures or adverse events in the assistance and help planning corrective actions, with an impact on quality improvement and safety of care.¹²

In this sense, understanding the phenomenon of missed hemodialysis care in the ICU will also collaborate for best practices, quality and safety of care. In Brazil, there is a scarcity of studies on hemodialysis care. Thus, it is essential to know, identify and evaluate missed care in dialysis therapy in ICU.

Therefore, the aim of this research was to verify the relationship between professional profile of intensive care nurses and missed care in hemodialysis therapy.

METHOD

This is an observational, quantitative study conducted in the ICUs of the two largest hospitals in the public network of Fortaleza – CE, Brazil. These hospitals have four types of ICU: clinical, surgical, cardiac and neurological. The data collection period occurred between June and September 2016, in the morning, afternoon and evening periods, in order to verify missed care in all work shifts. There was previous contact with the Nursing coordination of the two participating hospitals, which made themselves available for the execution of the research.

The population of nurses working in the ICU of the hospitals was 47 nurses. The inclusion criteria established was: having at least one-year experience in adult ICU. The exclusion criteria adopted was being on leave of any type in the data collection period.

Of the 47, seven were on vacation, four on maternity leave, three on health leave and three did not meet the inclusion criteria. In this case, we did not perform sample calculation for data collection, as the study was conducted with the population. Thus, the sample consisted of 30 nurses working in intensive care units in these hospitals, in all shifts.

Regarding the systematic observations of omitted hemodialysis care in ICUs, we considered the average hemodialysis of the two hospitals the year before the study development in those units, with 198 in hospital A and 186 in hospital B. So, considering the sample size calculation necessary to evaluate the number of sessions to be analyzed, the confidence level estimated was 95%; the prevalence of omitted Nursing care in hemodialysis of 50%, in order to maximize the sample; and statistical error of 5%. Thus, we obtained a sample of 384 hemodialysis sessions.

Considering the number of hemodialysis by nurses observed, there was an average of 12.8. In order to ensure the reliability of the sample, we made 390 systematic observations during hemodialysis sessions. In this sense, we should also highlight that we disregarded sessions that began under the supervision of one nurse and ended under the supervision of another.

The instrument built for data collection included sociodemographic data: gender, age, work shift, length of service in the institution, type of employment, ICU specialization and whether they have a training course in the field of Nephrology; and a checklist to identify hemodialysis missed care of intensive care unit nurses.

The checklist was built from the Nursing intervention proposed by the Nursing Interventions Classification (NIC) "hemodialysis therapy" (2100), which has as its Nursing activities: (1) reviewing blood biochemistry before treatment (urea, creatinine, sodium, potassium and bicarbonate); (2) checking and recording vital signs (pressure, pulse, respiration, temperature) before treatment; (3) checking all equipment and solutions, as well as checking the extracorporeal circuit to ensure that there are no bends and the connections are securely fastened; (4) wearing gloves, eye protection, mask and protective clothing; (5) checking system monitors (flow rate, temperature, pH level, pressure, conductivity, clots, air pressure, ultrafiltration negative pressure and blood sensor) to ensure patient safety; (6) monitoring patient's pressure, pulse, respiration, temperature, and response during dialysis and at the end to compare with pre-dialysis values; (7) monitoring clotting times and adjust heparin administration according to the patient's clinical condition; (8) adjusting filtration pressures to remove adequate amount of liquid; (9) performing protocol if the patient becomes hypotensive; (10) providing care with the catheter or fistula (dressing); (11) making dietary adjustments, with limitations on liquids and medications that

regulate water and electrolyte exchanges; (12) checking skin conditions, breathing pattern and peripheral perfusion in cases of complications.²

Three activities considered important for clinical practice that are not included in the NIC, but the researchers considered important were added: (13) writing down the losses in water balance at the end of dialysis; (14) using the catheter for purposes other than hemodialysis, such as drug administration, blood products and parenteral nutrition; (15) staying at the patient's side for the first five minutes of dialysis therapy. The checklist is dichotomous and has a choice of yes and no answers according to the care task execution.

In this sense, in order to recognize the activities of Nursing intervention hemodialysis therapy that were not performed by intensive care nurses, this study will assume them as missed care during hemodialysis patient care.

Data collection was performed by a researcher with extensive knowledge of the standard operating protocol of the study. To avoid the Hawthorne effect, during a period of 15 days the observations made were disregarded, in order to verify clarity in the applicability of the instrument. From this period, nurses were evaluated during 13 hemodialysis sessions in order to verify missed care.

There was a schedule of visits for each hospital and, daily, the researcher went to the hospitals in the morning, afternoon and evening shifts to meet the nurses and wait for the time of the hemodialysis session. Upon arrival at the service, they get information about the hemodialysis sessions of that shift, awaited the moment of the procedure and observed the entire process (3-4 hours) to fill out the checklist. Each nurse was observed during the care implementation to 13 patients.

Data were analyzed using the R data processor version 3.0.2. We calculated position (average, minimum and maximum) and dispersion measurements. For categorical variables, we verified absolute and relative frequency. Data on nurses' training were associated with the 15 observation items using the chi-square test for independence. In situations where the chi-square test assumptions for independence were not met, Fisher's exact test was applied. The significance level considered was 5%.

The Research Ethics Committee of the *Universidade Federal do Ceará*, under N° 1,519,319, as well as the two participating hospitals approved the research project. All ethical and legal precepts of National Health Council/*Conselho Nacional de Saúde* - CNS Resolution N° 466/2012 for research involving human beings were respected.

RESULTS

Sociodemographic characterization identified more participants of the female sex (n=21; 70%), with equivalent

amount of private and public education (n=15; 50%) and working during the day (n=21; 70). Regarding the type of employment, 14 (46.6%) were cooperative members. Regarding the type of ICU, 17 (69%) worked in clinical ICU, nine (13%) in cardiac and surgical ICU, respectively; and six in neurological ICU (5%).

The age ranged from 23 to 58 years old, with an average of 36.9 years old (± 10.60). Working time in the ICU ranged from one to 22 years, with an average of 5.96 (± 6.13). The average amount of dialysis performed by hospital A per month was 340.3 (± 28.22), while in hospital B it was 336.84 (± 24.27). In both hospitals, the average hemodialysis in the ICU was 198 ± 4.72 in hospital A and 186 ± 3.45 in hospital B. The revealed prevalence of professionals with specialization (n=21; 70%) and, only nine (30%) with ICU specialization; 93.3% (n=28) did not have training in Nephrology.

Regarding care, results show that “monitoring clotting times and adjusting heparin administration according to the patient’s clinical condition” was missed in 286 (73.3%) evaluations. When relating to professional data, it was found that being cooperative members (p <0.001), not having ICU specialization (p=0.012) and not having Nephrology training (p=0.003) were associated with this omission.

There was a significant association regarding “reviewing blood biochemistry before treatment (urea, creatinine, sodium, potassium and bicarbonate)” with working time in the ICU

less than six years (p<0.001), being a cooperative member (p <0.001) and trained in Nephrology (p=0.036), since in 325 observations (83.3%) nurses missed this action (Table 1).

The fact of being a cooperative member (p<0.001) and not having ICU specialization (p<0.001) is a condition associated with the omission of checking equipment and solutions before dialysis therapy on hemodialysis. It is noted that this omission was present in 90% of the systematic observations.

There was a significant association between “performing protocols if the patient becomes hypotensive” and employment relationship (p <0.001) and Nephrology training (p=0.036), since in 325 observations (83.3%) nurses missed this care task (Table 2).

There was also statistical association between the care task “checking and registering initial vital signs” and being a cooperative member (p<0.001) and not having ICU specialization (p<0.001), conditions associated with the omission of this care task in hemodialysis. This missed care was present in 90% of the systematic observations.

About “providing catheter or fistula care”, 20% of nurses do not perform it. We found an association with the work shift (p<0.001), because day nurses develop this action more than night nurses; not being a cooperative member (p <0.001); not having ICU specialization (p=0.006) and not having Nephrology training (p <0.001) (Table 2).

Table 1 - Statistical association between the professional profile of intensive care nurses and the lack of care for coagulation prevention, biochemical evaluation and solution checking in hemodialysis therapy in intensive care units (n=390 evaluations). Fortaleza, Ceará, Brazil, 2016

	Monitoring coagulation times and adjust heparin administration			Reviewing blood biochemistry before dialysis therapy			Checking equipment and solutions before dialysis therapy		
	Yes	No	P	Yes	No	P	Yes	No	P
Shift									
Day	78	195	0.240 ²	39	234	0.07 ²	26	247	0.768 ²
Night	26	91		26	91		13	104	
Length of service									
Uo to 6 years	78	195	0.240 ²	0	273	<0.001 ²	26	247	0.768 ²
> 6 years	26	91		65	52		13	104	
Employment relationship									
Cooperative member	26	156	<0.001 ²	13	169	<0.001 ²	0	182	<0.001 ²
Not Cooperative member	78	130		52	156		39	169	
ICU Specialization									
Yes	78	39	0.012 ²	39	234	0.314 ²	0	117	<0.001 ²
No	26	247		52	221		39	234	
Nephrology Training									
Yes	0	26	0.003 ²	0	26	0.036 ²	0	26	0.155 ²
No	104	260		65	299		39	325	

¹p-value of the chi-square test for independence; ²p-value of Fisher’s exact test.

Table 2 - Statistical association between occupational and professional profile of intensive care nurses and the lack of protocol care in hypotension, vital signs and catheters or fistulas in hemodialysis therapy in intensive care units (n=390 evaluations). Fortaleza, Ceará, Brazil, 2016

	Performing protocols if the patient becomes hypotensive			Checking and records initial vital signs			Providing catheter or fistula care		
	Yes	No	P	Yes	No	P	Yes	No	P
Shift									
Day	52	221	0.07 ²	156	117	0.85 ²	260	13	<0.001 ²
Night	13	104		65	52		52	65	
Length of service									
Uo to 6 years	52	221	0.07 ²	156	117	0.85 ²	221	52	0.561 ²
> 6 years	13	104		65	52		91	26	
Employment relationship									
Cooperative member	13	169	<0.001	104	78	0.91 ²	182	0	<0.001 ²
Not Cooperative member	52	156		117	91		130	78	
ICU Specialization									
Yes	26	91	0.07 ²	8	1	0.041 ²	104	13	0.006 ²
No	39	234		4	5		208	65	
Nephrology Training									
Yes	0	26	0.036 ²	13	13	0.613 ²	26	0	<0.001 ²
No	65	299		208	15		289	78	

¹p-value of the chi-square test for independence; ²p-value of Fisher's exact test.

Missed care “performing dietary adjustments with fluid limitations” was associated with employment (p <0.001) and Nephrology training (p=0.010) and was present in 73.3%.

“Using the catheter for purposes other than hemodialysis” was missed in 73.33%. The evaluations of nurses with working time, employment and ICU specialist were extremely significant (p <0.001) with having Nephrology training (p=0.003).

The care task “staying at the patient’s side in the first five minutes of dialysis therapy” was evidenced in 76.67% of the observations and was associated with all professional variables of intensive care nurses, such as day shift (p=0.003), length of service of six years or less (p <0.001), being a cooperative member, being an ICU specialist (p<0.001) and having Nephrology training (p=0.007) (Table 3).

The missed care task “using PPE during procedures” was associated with all professional variables, except for employment relationship, and was missed in 43.33% of the observations.

The item “checking system monitors (flow rate, temperature, pH level, pressure, conductivity, clots, air pressure, ultrafiltration negative pressure and blood sensor) to ensure patient safety” was missed in 83.3 % of the time. Nurses working in the day shift (p <0.001), cooperative members nurses (p = 0.02), non-ICU specialists (p <0.001) and without nephrology training (p=0.036) were associated with this omission.

Present in 40% of the observations, the missed care task “checking skin conditions, breathing pattern and peripheral

perfusion in case of complications” was associated with work shift (p <0.001), being a cooperative member (p <0.001) and being an ICU specialist (p=0.012) (Table 4).

“Adjusting filtration pressures to remove adequate amount of liquid” was missed by 30%. It was found that night shift nurses (p <0.001), with up to six years of service (p <0.001), non- ICU specialists (p=0.038) and without Nephrology training (p <0.001) were associated with this missed care.

There was a 40% omission in the association between “monitoring patient pressure, pulse, respiration, temperature and response during dialysis and at the end to compare with pre-dialysis values” and working time in ICU of up to six years (p <0.001) and without training in Nephrology (p <0.001). And missing the task “writing down the losses in water balance at the end of dialysis” was present in 16.67% of the evaluations performed and associated with moderate to extreme significance in all professional variables, except for having ICU specialization (Table 5).

DISCUSSION

From the results of the current research, it is possible to infer that data such as shift and working time in ICU, type of employment, having ICU specialization and Nephrology training showed relevance in the relationship with care at the time of dialysis therapy, directly influencing missed care tasks.

Table 3 - Association between the professional profile of intensive care nurses and the lack of care in dietary adjustments, use of the catheter for another purpose and staying with the patient for the first five minutes in hemodialysis therapy in intensive care units (n = 390). Fortaleza, Ceará, Brazil, 2016

	Performing diet adjustments with liquid limitations			Used catheter for purpose other than dialysis therapy			Staying at the patient's side in the first five minutes		
	Yes	No	P	Yes	No	P	Yes	No	P
Shift									
Day	78	195	0.240 ²	78	195	0.240 ²	52	221	0.003 ²
Night	26	91		26	91		39	78	
Length of service									
Uo to 6 years	78	195	0.240 ²	52	221	<0.001 ²	78	195	<0.001 ²
> 6 years	26	91		52	65		13	91	
Employment relationship									
Cooperative member	26	156	<0.001 ²	13	169	<0.001 ²	13	169	<0.001 ²
Not Cooperative member	78	130		91	117		78	130	
ICU Specialization									
Yes	39	78	0.06 ²	13	104	<0.001 ²	65	52	<0.001 ²
No	65	208		91	182		26	247	
Nephrology Training									
Yes	13	13	0.010 ²	0	26	0.003 ²	0	26	0.007 ²
No	91	273		104	260		91	273	

¹p-value of the chi-square test for independence; ²p-value of Fisher's exact test.

Table 4 - Association between the professional profile of intensive care nurses and the lack of care using PPE, checking system monitors and skin conditions, breathing pattern during hemodialysis therapy in intensive care units (n=390). Fortaleza, Ceará, Brazil, 2016

	Using PPE during procedures			Checking system monitors during hemodialysis for patient safety			Check skin conditions, respiratory pattern and peripheral perfusion in complications		
	Yes	No	P	Yes	No	P	Yes	No	p
Shift									
Day	182	91	<0.001 ²	13	260	<0.001 ²	182	91	<0.001 ²
Night	39	78		52	65		52	65	
Length of service									
Uo to 6 years	130	143	<0.001 ²	52	221	0.74 ²	169	104	0.289 ²
> 6 years	91	26		13	104		65	52	
Employment relationship									
Cooperative member	104	78	0.94 ¹	39	143	0.02 ²	91	91	<0.001 ²
Not Cooperative member	117	91		26	182		143	65	
ICU Specialization									
Yes	52	65	0.002 ²	0	247	<0.001 ²	65	52	0.012 ²
No	169	104		54	208		169	234	
Nephrology Training									
Yes	0	26	<0.001 ²	0	26	0.036 ²	13	13	0.384 ²
No	221	143		65	299		221	143	

¹p-value of the chi-square test for independence; ²p-value of Fisher's exact test.

Table 5 - Association between the professional profile of intensive care nurses and caring for adjusting filtering pressures to remove adequate amount of fluid, monitoring and recording vital signs during and at the end of dialysis, noting losses in water balance at the end of dialysis therapy in intensive care units (n=390). Fortaleza, Ceará, Brazil, 2016

	Adjusting filtering pressures to remove adequate amount of liquid			Monitoring and recording vital signs during and at the end of dialysis			Writing down losses in water balance at the end of dialysis		
	Yes	No	P	Yes	No	P	Yes	No	P
Shift									
Day	234	39	<0.001 ²	169	104	0.289 ²	247	26	<0.001 ²
Night	39	78		65	52		78	39	
Length of service									
Uo to 6 years	169	104	<0.001 ²	130	143	<0.001 ²	247	26	<0.001 ²
> 6 years	104	13		104	13		78	39	
Employment relationship									
Cooperative member	130	52	0.64 ²	104	78	0.330 ¹	169	13	<0.001 ¹
Not Cooperative member	143	65		130	78		156	52	
ICU Specialization									
Yes	91	26	0.038 ²	65	52	0.289 ²	104	13	0.74 ²
No	182	91		169	104		221	52	
Nephrology Training									
Yes	26	0	<0.001 ²	26	0	<0.001 ²	26	0	0.036 ²
No	247	117		208	156		299	65	

¹p-value of the chi-square test for independence; ²p-value of Fisher's exact test.

In this sense, we can say that theoretical knowledge and experience acquired throughout the profession can ensure high rates of accuracy, which gives more security to users of health services.¹³ However, an integrative review based on 21 international articles showed that work experience can lead to overconfidence and difficulties in assimilating new routines and protocols, which can inevitably make common mistakes go unnoticed as they have already become part of the working modus operandi.¹⁴

When conducting an evaluation with the professionals of the medical and Nursing staff of the neonatal ICUs, it was evidenced that, as professionals acquire more time of practice, they choose less positive responses related to the patient safety culture.¹⁵ This data contradicts the findings of this study, as it was observed that nurses with up to six years of experience in the ICU were associated with missed care such as: reviewing blood biochemistry before treatment, using catheter for another purpose besides dialysis therapy, staying close to the patient within the first five minutes, using PPE during procedures, adjusting filtration pressures to remove adequate fluid, recording water balance losses at the end of dialysis, and monitoring patient pressure, pulse, respiration, temperature and response during dialysis, and, at the end, to compare with pre-dialysis values.

A study reveals that workers with more than 20 years of practice in the same institution have a high rate of job satisfaction and are able to develop care routines more fluidly¹⁵, develop more skills and, therefore, are able to respond

quickly to demands caused by unprecedented situations. This means being prudent to improvise resources to respond to occurrences in their activity.¹⁶

Regarding the work shift, there was a predominance of missed care in the day shift professionals. A study did not corroborate the result of this research, which found that professionals who worked at night were more exposed to stressful work situations when compared to those who worked during the day, which could affect the quality of care provided.¹⁷

In contrast, a research on medication errors described a relationship with the work shift of Nursing professionals and concluded that working during the daytime increases the chance of error three times (p=0.000).¹⁸

Employment relationship was associated with the following missed care: providing catheter or fistula care, reviewing blood biochemistry before treatment, monitoring clotting times, and adjusting heparin administration according to the patient's clinical condition, checking equipment and solutions before dialysis therapy, performing protocols if patient becomes hypotensive, performing fluid-limited diet adjustments, using catheter for other than dialysis therapy, staying with patient for first five minutes, checking system monitors during hemodialysis for patient safety, checking skin conditions, breathing pattern and peripheral perfusion in complications and writing down losses in water balance at the end of dialysis.

The fact that the professional is hired by a cooperative can make them anxious at each contract termination, because they do not know whether it will be renewal or not, and their dismissal implies concern with the guarantee of financial commitments and family sustainability.¹⁹ This situation can be both stimulating as well as inhibiting for job satisfaction. In addition, those who engage in hired activities or have temporary work relationships may develop diseases resulting from professional instability.²⁰

Nurses without ICU specialization were more likely to miss 10 care tasks, namely: providing catheter or fistula care, monitoring clotting times and adjusting heparin administration according to the patient's clinical condition, checking equipment and solutions before dialysis therapy, checking and recording early vital signs, using catheter for other than dialysis therapy, using PPE during procedures, staying with patient for the first five minutes, checking system monitors during hemodialysis for patient safety, checking skin, breathing pattern and peripheral perfusion in complications and adjusting filtration pressures to remove adequate amount of fluid; which shows the relationship between deepening Nursing knowledge and ensuring patient safety in dialysis therapy.

In addition, non-training in Nephrology for ICU nurses was the factor that most influenced missed care (12), such as monitoring clotting times and adjusting heparin administration according to the patient's clinical condition, reviewing blood biochemistry pressure before treatment, performing protocols if patient becomes hypotensive, providing catheter or fistula care, performing fluid-limited diet adjustments, using catheter for other than dialysis therapy, staying with patient for first five minutes, using PPE during procedures, checking system monitors during hemodialysis for patient safety, adjusting filtration pressures to remove adequate fluid, monitoring and recording vital signs during and at the end of dialysis, and writing down water balance losses at the end of dialysis.

Given this, we can see the influence that training and knowledge of the intensive care professional nurse has on the practice of hemodialysis patient care and safety assurance. A study reveals that ICU specialist nurses ground on the practical situations experienced, establish the diagnoses and perform their actions, avoiding proposals and unsuccessful behaviors previously tested.²¹

Regarding training of intensive care nurses on hemodialysis, authors mention undergraduate training deficiency, expressed in the statements of the nurse: "I had never listened"; "I had no contact, no knowledge." Thus, besides handling the gaps in intensive care training, nurses need to learn how to deal with complex technology that hemodialysis involves²², which justifies the non-performance of basic care that ensure the patients' on hemodialysis safety.

As a limitation, it is noteworthy that the study reveals data from a local reality and cannot be generalized. Further studies should be performed at other centers to compare their findings from these assessments, as well as the concomitant observation of two researchers trained to investigate missed nurse care tasks.

CONCLUSION

Missed care in hemodialysis therapy ranged from 16.67 to 90%. When associating the professional profile and hemodialysis missed care in ICU experienced by intensive care nurses, there was a downward relationship with Nephrology training (80%), employment relationship (73.33%), ICU specialization (66,66%), work shift and length of service in the ICU, both with 46.66%.

In this sense, it is clear that the assessments produced here should support the reflection on care and management practices of intensive care nurses in search of better quality and safety care of patients with AKI in ICU. It is also observed that the results found are directly linked to the improvement of personal adequacy and physical and human resources.

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