

# **JOB SATISFACTION AND PATIENT CARE PRACTICES OF HEMODIALYSIS NURSES AND TECHNICIANS**

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## **ABSTRACT**

**Background:** The quality of care provided to American hemodialysis patients has been the focus of intense scrutiny. Yet little is known about the job satisfaction of the nurses and technicians providing this care. In other medical areas, job satisfaction among health care providers appears to be an important determinant of quality of patient care.

**Methods:** We identified 230 nurses and patient care technicians from 307 randomly selected American chronic hemodialysis facilities and asked them about (a) overall job satisfaction, (b) specific domains of job satisfaction, and (c) patient care practices.

**Results:** Of all subjects, 75% expressed overall satisfaction with their job. Subjects were least satisfied with their pay (45%), their chances for advancement (50%), and their supervisor's handling of employees (55%). Subjects were most satisfied with their personal delivery of patient care (95%), the chance to do things for others (95%), and their job security (95%). Most subjects said they regularly attended to patient psychosocial and educational needs and rarely made treatment or medication errors. Higher overall job satisfaction was associated with increased attention to patient needs and fewer errors.

**Conclusions:** While hemodialysis nurses and technicians generally express overall satisfaction with their jobs, about half are dissatisfied with specific aspects of their work. We urge local and national associations of nurses and technicians to work with dialysis facilities, chains, and regulatory agencies to address these issues. Further research is also needed to determine whether there is a causal link between job satisfaction and patient care practices and to determine the impact of care practices on patient outcomes.

## **INTRODUCTION**

The quality of care provided to American hemodialysis patients has been the focus of intense scrutiny at local, regional, and national levels. However, little is known about the job satisfaction of the nurses and technicians providing this care. In other medical areas, job satisfaction among health care providers appears to be an important determinant of quality of patient care. For example, physician job satisfaction has been linked to patient compliance, and nurse job dissatisfaction has been linked to patient dissatisfaction. Health care providers who are satisfied with their careers may also communicate and empathize better with patients. We therefore sought to study job satisfaction among a large, nationally representative sample of hemodialysis nurses and technicians. Understanding their perspectives is especially important since hemodialysis nurses and technicians spend a great deal of time providing care to patients (typically 12-16 hours every week).

## **METHODS**

### **Subjects and Facilities**

We used a random number generator to select 20% of all American hemodialysis facilities from a list maintained by the Centers for Medicare and Medicaid Services. We then phoned each facility and asked for the name of one randomly selected nurse and one randomly selected patient care technician for a survey on work experiences.

### **Questionnaire**

We mailed a 32-item questionnaire to each identified nurse and technician along with a cover letter stating (a) that we were interested in learning about their work experiences and (b) that we would not be able to track who did or didn't respond. The questionnaire covered five areas. First, sixteen items on specific aspects of job satisfaction (listed in Figure 1) and one item on overall job satisfaction. Subjects answered using a five-point Likert scale ranging from very dissatisfied to very satisfied. Second, three items on patient care practices including attentiveness to the social or personal impact of dialysis, answering questions or explaining treatments, and making treatment or medication errors. Subjects answered these questions using

a six point Likert scale ranging from never to daily. Third, an open-ended item asking subjects to describe how their job could be improved. Fourth, eleven descriptive items asking subjects to list their age, sex, race, time in profession, time working at facility, hourly wages, any supervisory role, duration of any on-the-job training, labor union membership, facility location, and facility for-profit status.

The questionnaire was developed by selecting and adapting items of demonstrated validity and reliability from pre-existing job satisfaction or health provider questionnaires. The questionnaire was first pilot tested on a small sample of dialysis nurses and technicians. Their comments were used to modify specific items. A copy of the questionnaire is available upon request from the authors.

### **Statistical analysis**

We used descriptive analysis (mean, median, standard deviation, range) to examine responses. We used the chi square test, the Mann Whitney test, the Wilcoxon Rank Sum test, or the Spearman's rho test to examine the relationship between subject characteristics (e.g. age) and their responses. We also used the Wilcoxon Rank Sum test to examine overall job satisfaction vs. specific domains of job satisfaction and job vs. specific domains of job satisfaction. We dichotomized some subject responses to simplify presentation but all statistical analyses and p values listed are based on the complete Likert scales described above. We grouped open-ended responses into themes and analyzed them separately.

## **RESULTS**

### **Subject and facility characteristics**

Of the 410 randomly selected hemodialysis facilities, 307 (75%) provided names of nurses and technicians, 90 (22%) declined to participate, and 13 (3%) could not be reached despite multiple attempts. The 103 non-participating facilities did not differ significantly from the 307 participating facilities in dialysis chain membership or number of stations but were more likely to be for-profit (83% vs. 71%,  $p = .02$ ). Note that approximately 13% of facilities did not have any technicians involved in patient care.

We mailed 575 surveys to the identified nurses and technicians and received a total of 230 (40%) responses from 127 nurses and 103 technicians. Most subjects were female, the average amount of on-the-job training was 3 months, and only 4% belonged to a labor union representing nurses or technicians (Table 1). Compared to technicians, nurses were more likely to be white, to have higher wages, and to be in supervisory roles (Table 1).

### **Overall job satisfaction**

Of all subjects, 75% expressed overall satisfaction with their job. Nurses had slightly lower satisfaction than technicians (72% vs. 79%,  $p=.05$ ). There was no relationship between subjects' characteristics and overall satisfaction

### **Specific domains of job satisfaction**

As indicated in Figure 1, subjects were least satisfied with their pay (45%), their chances for advancement (50%), and their supervisor's handling of employees (55%). Subjects were most satisfied with their personal delivery of patient care (95%), the chance to do things for others (95%), and their job security (95%). Nurses were more satisfied than technicians with their pay, their chances for advancement, and the freedom to use their judgment (Table 2). Technicians were more satisfied than nurses with the amount of work, feeling of accomplishment, and the patient care provided by the facility.

### **Patient care practices**

As indicated in Table 3, most subjects said they regularly attended to patient psychosocial and educational needs and rarely made treatment or medication errors. There were no differences between nurses and technicians in responses to these questions. Higher overall job satisfaction was associated with increased attention to patient needs and fewer errors. Subjects who attended to psychosocial needs on a daily basis had a higher job satisfaction score than those who did not (74 vs. 66,  $p=.02$ ). Subjects who answered questions daily or weekly had a higher satisfaction than those who did not (73 vs. 50,  $p=.04$ ). Subjects who never made errors had a somewhat higher satisfaction than those who did (77 vs. 70,  $p=.06$ ).

### **Areas for improvement**

Out of the 94 individuals who answered an open-ended question, the three most commonly named suggestions for improvement were increasing the number of staff (named by 25% of subjects), increasing pay (named by 21% of subjects), and improving staff relations (named by 13% of subjects).

## **DISCUSSION**

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**Table 1. Subject characteristics.**

	Nurses n = 127	Technicians n = 103	P Value
Mean age, years (range)	41 (22 - 63)	37 (21 - 61)	.004
Female, %	91	84	.16
Race, %			.001
White	80	58	
Black	10	26	
Other	10	16	
Mean time in profession, years (range)	8.4 (0.1 - 32)	7.6 (0.5 - 34)	.40
Mean time at facility, years (range)	4.5 (0.1 - 28.4)	4.3 (0.1 - 22)	.70
Mean hourly wages, \$ (range)	22.62 (10.15 - 36.10)	12.14 (6.76 - 25.00)	< .001
Supervisory role, %	76	41	< .001
Mean on-the-job training, months (range)	3.1 (0 - 30)	3.2 (0.25 - 25)	.72
Labor union membership, %	3	6	.32
Facility location, %			.29
Hospital-based	17	12	
Free-standing	83	88	
For-profit facility, %	74	69	.38

**Table 2. Responses of nurses and technicians to questions about specific domains of job satisfaction and overall satisfaction (n = 230). Numbers indicate satisfaction scores where 0 = very dissatisfied and 100 = very satisfied.**

Item	Nurses n = 127	Technicians n = 103	P Value
Chance to do different things	68	71	.28
Chance to be somebody in community	65	67	.23
Supervisor's handling of employees	60	60	.94
Job security	84	84	.89
Chance to do things for others	85	85	.84
Chance to utilize abilities	77	78	.83
Pay	57	44	< .001
Amount of work	55	65	.006
Chances for advancement	60	48	.003
Freedom to use one's judgment	77	71	.004
Physical working conditions	62	67	.22
Interaction with co-workers	63	65	.56
Praise received for doing a good job	62	63	.84
Feeling of accomplishment	69	76	.008
Personal delivery of patient care	82	86	.05
Patient care delivered by dialysis facility	76	80	.04
Overall job satisfaction	69	75	.05

**Table 3. Responses of nurses and technicians to questions about frequency of specific patient care practices (n = 230). Numbers indicate percent of subjects giving each response.**

Patient Care Practice	Never	Once a year	Several times per year	Monthly	Weekly	Daily
Attentive to social or personal impact of dialysis	1	0	2	6	17	73
Answer questions or explain treatment	0	0	1	2	10	87
Make treatment or medication errors	23	40	30	7	0	0



**Figure 1. Responses of nurses and technicians to questions about domains of job satisfaction as well as overall job satisfaction (n = 230). Asterisk indicates statistically significant ( $p < .05$ ) difference between specific domains and overall job satisfaction.**