Intention to stay and nurses' satisfaction dimensions

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Objective: The study was conducted to identify the satisfaction dimensions in relation to anticipated nurse turnover in an academic medical institution using an ordinal regression model.

Methodology: A cross-sectional descriptive study was designed to describe nurse job satisfaction in relation to their intention to stay at King Faisal University's Hospital, Al-Khobar, Saudi Arabia. All nurses available at the time of the study were included (499 nurses in different departments). The response rate was 55.3% (276 questionnaires suitable for analysis). A self-administered questionnaire with 26 items was developed for this study with a five-point Likert scale ranging from 1 = highly dissatisfied to 5 = highly satisfied).

Results: Nurses were least satisfied with the hospital's benefits (1.2 ± 0.4), hospital policies (1.4 ± 0.5), bonuses (1.1 ± 0.3), fairness of the performance appraisal system (1.5 ± 0.5) paid time off (1.5 ± 0.5), and recognition of achievements (1.5 ± 0.5). The mean general job satisfaction score was 2.2 ± 0.4. Ordinal regression analysis revealed leadership styles and challenging opportunities as predictive dimensions for the intention to stay.

Conclusion: There are nurse job satisfaction dimensions other than salary and incentive that may be anticipated with the intention to stay in the health facility. Namely, leadership styles in the health organization and challenging opportunities at work.

Keywords: intention to stay, nurse satisfaction, ordinal regression

Introduction

Job satisfaction is a topic of wide interest to both people who work in organizations and people who study them. It is a most frequently studied variable in organizational behavior research, and also a central variable in both research and theory of organizational phenomena ranging from job design to supervision. Job satisfaction is a complex construct from many attitudes and perceptions of various elements of work (Lu et al 2005).

Globally, major changes have taken place in all health care systems. These changes include shortened lengths of stay, increasing emphasis on cost effectiveness, and an increase of patients with acute and chronic diseases. These escalating changes in health care systems influence nurses' job satisfaction (Curtin 2000; Kohles-Baker et al 2000; Mrayyan 2006).

Job satisfaction among nurses has long been recognized as a crucial indicator of nurses' performance, cost savings, and quality of patient care. As nurses' job satisfaction decreases, the likelihood of leaving their employment settings increases. If nurses' job satisfaction continues to deteriorate, the present nursing shortage will worsen (Chen-Chung et al 2003). Dissatisfaction with work can cause poor job performance, lower productivity, and staff turnover. The most correlate of work satisfaction is retention. Employees who are satisfied with their work tend to remain in their jobs. Studies have found strong evidence to support the positive relationship

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between work satisfaction and turnover behavior in nurses. Absenteeism, grievances, turnover, and reduced patient satisfaction are often the result of dissatisfaction and often translate into costs for the hospital (Borda and Norman 1997; Lloyd et al 1998). Similarly, a study concluded that patients, who stayed on wards where nursing staff felt more exhausted or more frequently expressed their intention to quit, were less satisfied with their medical care. This study confirmed the importance of understanding nurses' job satisfaction and intention to stay as both concepts, which would contribute to patient outcomes. In a similar context, nurses' intention to stay has a strong effect on their actual action of turnover, which might lead to certain amount of decrease in the quality and increase in the cost for patient care (Tzeng 2002).

Nurses' job dissatisfaction has been reported as the primary predictor of intent to leave, and organizational commitment (Ingersoll et al 2002; Larrabee et al 2003). Aiken and colleagues (2001) found that nurses reported decreasing standards of care and high levels of nurses' burnout and job dissatisfaction.

Job satisfaction is comprised of intrinsic and extrinsic factors. Intrinsic factors are those internally derived and include personal achievement, sense of accomplishment, and prestige. Extrinsic factors are those derived from factors in the practice environment and include pay and benefits, working conditions, and resources. It is of great importance for health administrators at different health care organizations and at various levels of care provision to identify the level of nurses' satisfaction and identify the dimensions of high dissatisfaction as a means of maintaining a stable working force. The dimensions with high correlation to intention to quit remains a crucial aspect of job satisfaction facing health administrators to tackle.

Studies conducted in Saudi Arabia did not identify job satisfaction dimensions among nurses as explanatory variables for the intention to quit. The purpose of this study was to identify the satisfaction dimensions in relation to anticipated nurse turnover in an academic medical institution using an ordinal regression model.

Methodology
Study settings
The study took place at King Fahd Hospital of the University (KFHU) at Al-Khobar, Saudi Arabia. King Fahd Hospital of the University is a 430 bed regional referral hospital for the Eastern Province of Saudi Arabia, which provides a tertiary level multidisciplinary medical care to the community.

A total number of 499 nurses constituted the working force at the time of the study.

Study design
A cross-sectional descriptive study was designed to describe the King Fahd Hospital of the University nurse job satisfaction in relation to their intention to stay.

Target population
Nurses operating at King Fahd Hospital of the University.

Sampling design
All nurses employed in King Fahd Hospital of the University at the time of study. A total of 499 nurses working in different departments where surveyed. The response rate was 55.3% from 276 questionnaires suitable for analysis.

Data collection method
After an intensive review of the literature, a self-administered questionnaire with 26 items was developed for this study. The questionnaire determines the level of satisfaction of nurses in relation to satisfaction dimensions. The instrument consisted of two parts:

1. Demographic information, which included: age, gender, marital status, number of children, nationality, educational degree, job rank, years of experience, working department, working schedule, monthly income.
2. Job satisfaction instrument constituted of a five-point Likert scale (1 = highly dissatisfied, 2 = dissatisfied, 3 = can't tell, 4 = satisfied, 5 = highly satisfied) with 26 statements.

The dimensions were: dimension of indirect working environment included the statements; hospital's policies, hospital's benefits, dimension of direct working environment included the statements; medical equipment, working environment, scheduling, working hours, workflow, stability of the job, dimension of salary and promotions included in the statements; fairness of the performance appraisal system, bonuses, paid time off, dimension of self growth and development included in the statements; on-the-job training, participating in research activities, dimension of challenging work included in the statements; recognition of your achievements, independent thinking and decision making, independent work, dimension of interaction included in the statements; relationships with patients, relationship with coworkers, relationships with managers, dimension of leadership style included in the statements; abilities of coordination, direct supervisor's leadership styles, relationship with direct supervisors,

dimension of working atmosphere included in the statements; communication with physicians, communication with colleagues, support from colleagues, and a general job satisfaction statement.

Intention to quit statement was phrased as follows; I intend to quit working at the University hospital. Responses were 1) agree, 2) can't tell, 3) disagree.

Data analysis

The data collection started in the first week of February, 2007 and ended on the 15th of March, 2007. Data entry and processing were performed using the Statistical Package of the Social Science (SPSS) software (English version 10.0; SPSS Inc., Chicago, IL, USA).

The mean satisfaction score for each dimension was calculated by summating the scores statements included within each dimension then dividing the total score by the number of statements. Ordinal regression model; intention to quit was used as the dependent variable and was coded: 0 = agree to quit, 1 = can't tell, 2 = disagree to quit. Explanatory variables were the satisfaction dimensions which were converted into categorical variables. After running a preliminary data analysis to identify the suitability of the variables for ordinal regression analysis, the extremes on the satisfaction Likert scale were redundant so the researchers had to manipulate the scale by recoding and further analyses proceeded on a 3-point Likert scale accordingly, for satisfaction ranging from dissatisfied (1 to < 3 = 0), can't tell (3 to < 4 = 1), satisfied (4 to 5 = 2). Similarly, each dimensional score was recoded into categorical variables to become included in the ordinal regression analysis (Chen and Hughes 2004). To add credibility to the satisfaction scale, reliability coefficients were calculated and revealed Cronbach's alpha = 0.91, and unequal split half Guttman's coefficient, alpha part 1 = 0.86, alpha part 2 = 0.85. Results of the likelihood ratio test were significant ($X^2 = 61.1$, p = 0.001), chi-square goodness of fit results were insignificant (Pearson chi-square = 160.1, p = 0.69, deviance chi-square = 147.3, p = 0.89) all indicating the adequate fit of independent variables in the model under study.

Results were illustrated using descriptive tables, with the relevant tests of significance. The 5% level of significance was used throughout the statistical analysis for all relevant tests.

Ethical considerations

The anonymity of participants and confidentiality of their responses were ensured by using numerical codes for questionnaires, destroying the data at the end of the study, assuring nurses that the overall results would be shared with the hospital's administration for the purpose of designing the needed managerial interventions.

All nurses who participated in the study were those who actually agreed to complete the study. Nurses were approached by the researchers with a full description of the study and its aim, after which the nurses were free to participate in the study or reject. The researchers assured participants with the formal permission of the hospital's management to proceed with study throughout the hospital. The Hospital's head nurse gave full backup and cooperation for the nurses to participate in the research owing to the impact resulting from the analysis of the final results while stressing on the fact the nurses were free to participate in the study or reject.

The study was conducted after gaining the approval of the scientific committee as an initial step, followed by the research ethics committee at the College of Applied Medical Sciences, King Faisal University, Kingdom of Saudi Arabia. The Hospital's management was formally informed of the research objective through the College's administration through the submission of a formal request accompanied by the research protocol. The formal request to undergo the research included the approval on behalf of the Hospital's management to be identified in the study in case of publishing the final results.

Results

Table 1 shows the demographic variables in relation to their intention to quit. Only 17% of the sample (47 nurses) agreed that they had intentions to quit, while more than half of the sample under study could not tell exactly whether they intended to quit or not. As regards the group who intended to quit, the highest percentage of nurses were among the age group 30 to less than 40 years of age, the majority were married (72.3%) females (91.5%) where more than half of them (55.3%) had one or two children. Nurses with a nursing diploma accounted for the highest percentage of those intended to quit (66.0%). The highest percentage who intended to quit (46.8%) had less than ten years of experience and 95.7% of them earned less than 5000 Saudi Riyals/month. No significant difference was detected among all groups of demographic variables and intention to quit categories through the chi-square test.

Table 2 shows the total mean scores of nurses' job satisfaction for statements and the total dimension mean scores. Nurses were least satisfied with the dimensions of indirect working environment (1.6 ± 0.4) and salary and promotion

Table 1 Nurses' demographic information by their intention to quit

Demographic variables	Intention to quit							
	Agree (47)		Can't tell (159)		Disagree (70)		Total (276)	
	No.	%	No.	%	No.	%		X²
Age								
20–	15	31.9	33	20.8	15	21.4	63	7.22
30–	20	42.6	61	38.4	22	31.4	103	
40–	6	12.8	37	23.3	21	30.0	64	
50+	6	12.8	28	17.6	12	17.1	46	
Gender								
Female	43	91.5	140	88.1	58	82.9	241	2.07
Male	4	8.5	19	11.9	12	17.1	35	
Marital status								
Single	12	25.5	38	23.9	11	15.7	61	2.67
Married	34	72.3	117	73.6	58	82.9	209	
Divorced/widow	1	2.1	4	2.5	1	1.4	6	
Number of children								
0	16	34.0	48	30.2	17	24.3	81	5.81
1–	26	55.3	79	49.7	33	47.1	138	
3+	5	10.6	32	20.1	20	28.6	57	
Educational level								
Diploma	31	66.0	83	52.2	36	51.4	150	3.08
Baccalaureate	16	34.0	76	47.8	34	48.6	126	
Years of experience								
0–	22	46.8	58	36.5	27	38.6	107	6.73
10–	17	36.2	63	39.6	19	27.1	99	
20–	8	17.0	38	23.9	24	34.3	70	
Monthly income								
<5000 SR	45	95.7	147	92.5	64	91.4	256	0.83
≥5000 SR	2	4.3	12	7.5	6	8.6	20	

(1.6 ± 0.6). As regards statements of the indirect working environment, nurses were least satisfied with hospital's benefits (1.2 ± 0.4) and hospital's policies (1.4 ± 0.5). Whereas, nurses were dissatisfied with bonuses (1.1 ± 0.3) as regards the dimension of salary and promotion. Also, fairness of the performance appraisal system (1.5 ± 0.5) and paid time off (1.5 ± 0.5) were dissatisfying to nurses. As regards challenging work, nurses were dissatisfied with the statement of recognition of achievements (1.5 ± 0.5). The mean general job satisfaction score was 2.2 ± 0.4.

Table 3 shows the predictor variables of the ordinal regression model. Only two dimensions were included in the equation after iteration namely, challenging work ($ß = 1.40$, $p = 0.03$), indicating a unit increase in challenging work (going from 0 to 1) we expect a 1.4 increase in the log odds of nurses quitting their job at the university hospital given all of the other dimensions of satisfaction held constant. The other dimension included was leadership style ($ß = 2.91$, $p = 0.02$), indicating a unit increase in challenging work (going from 0 to 1) we expect a 2.91 increase in the log odds of nurses quitting their job at the university hospital given all of the other dimensions of satisfaction held constant. There was no statistically significant effect of the other satisfaction dimensions included in the ordinal logistic regression model.

Discussion

Studies on nurse job satisfaction concluded the insignificance of demographic factors on the level of satisfaction. Our results concluded that the intention to quit was insignificant among the demographic variables in the study sample. A significant amount of study has been devoted

Table 2 Total mean scores of nurses' job satisfaction

Job satisfaction statements		Mean	SD
Indirect working environment			
Hospital's policies		1.4	0.5
Hospital's benefits		1.2	0.4
	Total mean	**1.6**	**0.8**
Direct working environment			
Medical equipment		1.7	0.4
Working environment		1.6	0.5
Scheduling		1.6	0.5
Working hours		1.8	0.4
Workflow		1.6	0.4
Stability of the job		1.6	0.4
	Total mean	**2.2**	**0.7**
Salary and promotion			
Fairness of performance appraisal system		1.5	0.5
Bonuses		1.1	0.3
Paid time off		1.5	0.5
	Total mean	**1.6**	**0.6**
Self growth and development			
On-the-job training		1.7	0.4
Participating in research activities		1.5	0.5
	Total mean	2.3	0.7
Challenging work			
Recognition of achievements		1.5	0.5
Independent thinking and decision making		1.7	0.4
Independent work		1.8	0.4
	Total mean	**2.2**	**0.7**
Interaction			
Relationship with patients		1.8	0.3
Relationship with coworkers		1.9	0.2
Relationship with managers		1.8	0.4
	Total mean	**2.6**	**0.4**
Leadership style			
Abilities of coordination		1.7	0.4
Direct supervisor's leadership style		1.7	0.4
Relationship with direct supervisors		1.8	0.4
	Total mean	**2.5**	**0.6**
Working atmosphere			
Communication with physicians		1.8	0.3
Communication with colleagues		1.9	0.2
Support from colleagues		1.9	0.3
	Total mean	**2.7**	**0.5**
General job satisfaction		**2.2**	**0.4**

Table 3 Predictor variables of the ordinal regression model

Predictor Variable(s)	(B)	Exp(B)	Significance	95% CI for Exp(b)	
Intercept	−1.34		0.002		
Challenging work	1.40	4.06	0.03	1.08	15.17
Leadership style	2.91	18.41	0.02	1.41	240.28

managers, intensity of work too great, poor support services, and incompetent staff. Our results were in concordance with such findings in the literature. Nurses were least dissatisfied with the hospital benefits offered and implemented policies as well as recognition of their achievements. The predictable variables of the ordinal regression model namely, challenging work and leadership style of the supervisor show that nurses are not entirely looking for compensation from their work especially that most of the nurses included in the study were expatriates working in an oil producing country with high wages. Anticipated turnover among nurses or quitting the job can result from a variety of factors beyond work satisfaction. In a group of young nurses, this can include spouse transfer, pregnancy, and developmental transitions. However, our results clarified job satisfaction variables other than salary and incentive as may logically be anticipated. The dimension of leadership styles undertaken by the nurses' direct supervisors and the challenging cases they are facing on their shifts which add to their skills as well as fulfill their inspirations of doing a good job, are considered crucial motivators especially for professionals. Hospital administrators are suggested to spend time and effort on studying how these factors specifically impact high turnover units and put strategies in place to change them. Communication skills led by health managers poses a pivotal factor when dealing with nurses similarly as when they are dealing with other professionals within the health facility. Some suggestions for moving in a positive direction start with the importance of understanding the issues of recruitment and retention of registered nurses. On an individual level, the findings suggest that nurse managers try to deal with individual nurses and focus on the perceptions of the issues rather than relying on the interpretation of the data by nurse executives, hospital administrators, a managerial step known as profiling, which relates nurse to their demographic characteristics, educational level, years of experience as a registered nurse, and hours worked per week. Frequent and informal inquiries on both an individual as well as a cohort level of nurse satisfaction by front-line managers is a viable management strategy. Such a strategy can assist the

to understanding the complexities of what kept nurses in their jobs. Literature reports that reasons for nurse turnover include insufficient compensation, insufficient opportunity for decision-making, insufficient for recognition, lack of professional growth opportunities, poor relations with

manager with developing unit-based interventions directed at decreasing turnover.

Limitations

The authors were aware of the limitations in using the ordinal regression model as regards the missing values and not applicable responses. Eventually the sample size was suitable for analysis to proceed as regards the dummy variables resulting from the iteration analysis which takes place during the extraction of the significant variables in the final model as well as the number of cells with zero value.

From the results of the study, it was obvious that nurses were reluctant to give their open level of satisfaction as regards several statements on the questionnaire, fearing from any actions taken on behalf of the administration after publishing the results of the study especially that the majority of nurses at the hospital were expatriates. Such bias in responses poses a significant effect on the results obtained in this study, pointing to the fact that future studies using the same questionnaire in different health care settings are apt to take place to actually determine the level of satisfaction among Saudi nurses.

Disclosure

The authors report no conflicts of interest in this work.

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Appendix

King Faisal University
Health Information Management &
Technology

Nurses' Job Satisfaction in relation to the Intention to Stay Questionnaire
Serial # ( )
This questionnaire is conducted to determine the nurses' job satisfaction in relation to intention to stay in King Fahd Hospital of the University. All collected data will be confidential. Thank you for your participation.

Demographic Information

1.	Age				
2.	Gender	☐ Female	☐ Male		
3.	Marital status	☐ Single	☐ Married	☐ Divorce	☐ Widow
4.	Number of children				
5.	Nationality				
6.	Educational degree	☐ Diploma ☐ Master Degree or Higher	☐ Associate Degree ☐ Other	☐ Baccalaureate Degree	
7.	Job rank	☐ Registered Nurse ☐ Assisted Nurse	☐ Licensed Practical Nurse ☐ Other		
8.	Years of experience				
9.	Working department				
10.	Working schedule	☐ Regular day work ☐ Shift work "Not night" ☐ Other	☐ Irregular hours "Not shift" ☐ Day and night shift		
11.	Monthly income	☐ Less than 5000 SR	☐ Between 5000 and 10000 SR ☐ More than 10000 SR		

Job Satisfaction Scale

Regarding the following aspects, what is the level of your satisfaction?

Dimension	Highly Dissatisfied	Dissatisfied	Can't Tell	Satisfied	Highly Satisfied
Hospital policies					
Hospital's benefits					
Medical equipment					
Working environment					
Scheduling					
Working hours					
Workflow					
Stability of the job					
Fairness of performance appraisal system					
Bonuses					
Paid time-off					
On-the-job training					
Participating in research activities					
Recognition of your achievement					
Independent thinking and decision making					

Independent work					
Relationships with patients					
Relationships with coworkers					
Relationships with managers					
Abilities of coordination					
Direct supervisor's leadership styles					
Relationship with direct supervisor					
Communications with physicians					
Communication with colleagues					
Support form colleagues					
General job satisfaction					

Intention to stay scale

I intend to quit working at the University Hospital	Agree to quit	Can't Tell	Disagree to quit