RESEARCH ARTICLE

JOB PERFORMANCE AMONG NURSES WORKING IN TWO DIFFERENT HEALTH CARE LEVELS, EASTERN SAUDI ARABIA: A COMPARATIVE STUDY

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ABSTRACT
Background: Nursing job performance reflects the quality of delivered care and consequently patient outcomes, poor job performance is considered a risk factor for patient safety.
Aims & Objective: To assess the level of self-reported job performance among nurses working in primary and secondary care and to determine the variables predicting performance among different levels of care.
Materials and Methods: A cross-sectional epidemiological study was conducted; using a self-administered questionnaire based on the Schwirian Six Dimension Scale of Nursing Performance. Data were collected from a convenient sample with a total number of 637 nurses, (144 from primary health care centers and 493 from secondary care level hospital). Descriptive statistics, Chi-square test and Logistic regression analysis were used for analysis of the data.
Results: Almost half of the studied nurses perceived their performance as good with comparable results among primary and secondary level of care. Nurses working in primary care level rated better at some performance subscales such as teaching, communication, planning and personal development, whereas nurses working in secondary care level were advanced in leadership and critical care ratings. Variables that had significant predictive effect of performance of secondary health care level nurses were stress, shifts and department of work.
Conclusion: Job stress and work shifts were found to be negatively correlated with performance that indicates the importance of implementing effective strategies to assess and manage stress and re-examining work conditions such as Work shifts to ensure more suitable work situation.
Key Words: Nurses; Job Performance; Health Care Level; Predictors; Saudi Arabia

Introduction

Job performance defined as the effectiveness of a person in carrying out his or her roles and responsibilities related to direct patient care; others define it as fulfilling the assigned roles and responsibilities effectively.[1] Borman and Motowidlo (1993) classify performance into behaviours related to the technical core (task performance) and behaviours that maintain the social environment in which technical core should function (contextual performance).[2,3] In general job performance is a multifaceted phenomenon with many variables affecting its level, such as individual characteristics, work load, work satisfaction, personal competencies, recognition of achievements, social support, supportive communication and feedback, leadership behaviour and organizational climate.[4-13] Nursing job performance studied in the literature extensively, as it reflects the quality of delivered care and consequently patient outcomes and patient satisfaction.[14,15] Poor job performance as a result of occupational stress and decreased satisfaction is considered a risk factor for patient safety.[16] Several studies conducted previously address a negative linear relationship between occupational stress and job performance[17], but an inverted U relationship also mentioned where nurses with a moderate level of stress performed better than nurses with high[18] or low levels of stress. Performance was studied also along with other concepts such as organizational commitment, job satisfaction and intention to stay. But most of these studies were based on American or European work context and since work performance differs with different work settings comes the importance of a study to be conducted on Saudi nurses. This study aimed to assess the self-rated job performance among nurses working in primary and secondary care levels, to examine whether there is a difference in levels of job performance in the two different levels of health care and to find-out whether personal or work characteristics affect job performance.

Materials and Methods

A cross-sectional epidemiological study was conducted in Dammam city; Eastern region of Saudi Arabia during 2012-2013 G. The total number of primary health care centers (PHCCS) in Dammam is 24 representing the primary level of care with a total number of 270 nurses.

Seventeen primary health care centers were randomly selected and all nurses in those centers (144) were included in the study

There is one central governmental hospital named Medical Tower Complex (MTC) representing the secondary level of care with a total number of 1070 nurses[19], from them a 493 nurses, representing different departments in the MTC, were randomly selected to be included in the study. The total number of nurses included in the study in both levels was 637nurses which was calculated by using the equation described by Dahiru et al. (2006)[20] according to the number of nurses in both heath care levels.

The specific inclusion criteria was nurses who are working at primary and secondary health care levels, of all ages, both sex, Saudi and non-Saudi and regardless of educational level or years of experience.

Data collection was done using a Self-administered questionnaire that was written in both English and Arabic. The questionnaire was composed of two main parts: (A) Socio-demographic characteristics such as age, sex, educational level, marital status, number of living children, years of experience, etc. (B) Job performance was measured using Schwirian Six Dimension Scale of Nursing Performance.[21] This scale is of high reliability values, and alpha coefficient for the whole Scale was 0.97.[22] It was composed of six subscales namely: Leadership, critical care, teaching/ collaboration, planning/ evaluation, Interpersonal relations/ communication and professional development. The total performances score and the 6 sub scores was divided into groups namely; good and poor performance according to the mean score of the total and sub scores. Nurses who scored above the mean was considered having good performance while nurses who scored below the mean considered having poor performance

Health authorities' permission and verbal consent of participant nurses were taken to ensure that the study is ethically conducted, objectives and benefits of the study were explained and confidentiality of the information was strictly ensured.

The analysis of data was performed using the statistical package for social science (SPSS) for Windows 16.0 (SPSS Inc., Chicago, IL, USA) software. Descriptive analysis in the form of means ± SD for all the numeric scores was performed. A correlational analysis was conducted to examine the bivariate relationships between the research variables. Linear regression modelling was used to explain the variance in each dependent variable by the independent variables. A P value<0.05 was considered statistically significant.

Results

The mean age of studied nurses working in PHCCs and MTC in Dammam was 35.2± 8.2 and 28.6± 5.6 years, respectively with a high statistical significant difference (p<0.001). Most of studied nurses working in either primary or secondary levels were Saudi (99.3% and 76.7% respectively), females (91.7% and 86.4% respectively) and married (80.6% and 64.5% respectively). (Table 1)

The majority of studied nurses were staff nurses (85.4% in PHCCs and 88.4% in MTC) with a total experience of ten years and more among 68.1% of nurses working in primary care compared to 17.6% among nurses working in secondary care with a statistical significant difference between the two levels (p <0.001). However, 49.3% of nurses working in PHCCs and 9.5% of nurses working in MTC had current experience of the same duration (p <0.001). None of the studied nurses working in primary care had post-graduate degrees, or having work shifts compared to 1.8% and 84.2% of nurses in secondary level, respectively (Table 1).

The performance of nurses was measured using Schwirian Six Dimension Scale of nurses' performance, where 53.7% of the studied nurses perceived their performance as good with comparable results among primary and secondary level of care 54.2% and 53.5%, respectively (figure 1). However, almost 60% of nurses working in primary care level rated better at some performance subscales such as teaching (63.2%), communication (59.7%), planning and personal development (63.2% and 60.4%), while nurses working in secondary care level had better performance regarding leadership (58%) and critical care (59.6%) (Figure 2). There was no statistical significant association between performance level and any of the personal or work characteristics in nurses working in PHC. Whereas performance of secondary level of care nurses was affected by several factors. Being non-Saudi (27.9%), with bachelor degree (73.4%), having working shifts (88.6%) and working in surgical department (30.6%) is statistically significantly associated with performance level among nurses in secondary care level (Table 2).

Table-1: Socio-demographic features of studied nurses in primary and secondary levels of health care

Socio-Demographic Characteristics		Level of Health Care				P value
		Primary (N=144)		Secondary (N=493)		
		N	%	N	%	
Age in years	20-<30	37	25.7	361	73.2	<0.001
	30-<40	65	45.2	97	19.7	
	40-<50	32	22.2	29	5.9	
	50-60	10	6.9	6	1.2	
Gender	Male	12	8.3	67	13.6	>0.05
	Female	132	91.7	426	86.4	
Nationality	Saudi	143	99.3	378	76.7	<0.001
	Non-Saudi	1	0.7	115	23.3	
Marital Status	Single	19	13.1	160	32.5	<0.001
	Married	116	80.6	318	64.5	
	Divorced	7	4.9	9	1.8	
	Widowed	2	1.4	6	1.2	
No. of living children	<3	42	29.2	163	33.1	<0.001
	≥3	65	45.1	55	11.1	
	No children	37	25.7	275	55.8	
Job Position	Head nurse	17	11.8	15	3.1	<0.001
	Staff nurse	123	85.4	436	88.4	
	Nursing assistant	4	2.8	42	8.5	
Total Experience (years)	Less than 5	18	12.5	277	56.2	<0.001
	5-<10	28	19.4	129	26.2	
	10 or more	98	68.1	87	17.6	
Current Experience (years)	Less than 5	30	20.8	253	51.3	<0.001
	5-<10	34	23.6	97	19.7	
	10 or more	71	49.4	47	9.5	
	Refuse to answer	9	6.2	96	19.5	
Monthly Income (SR)	Less than 5000	33	22.9	382	77.5	<0.001
	5000 - <10000	62	43.1	70	14.2	
	10000 or more	49	34	24	4.9	
	Refuse to answer	0	0	17	3.4	
Qualification	Bachelor	14	9.7	111	22.5	<0.01
	Non- bachelor	130	90.3	382	77.5	
Post-graduate	Master	0	0	8	1.6	>0.05
	PHD	0	0	1	0.2	
	None	144	100	484	98.2	
Shift	Present	0	0	415	84.2	<0.001
	Absent	144	100	78	15.8	
Working Days	20	136	94.4	1	0.2	<0.001
	22	8	5.6	492	99.8	
Working Weekends	0/4	144	100	83	16.8	<0.001
	¼	0	0	75	15.2	
	2/4	0	0	154	31.2	
	¾	0	0	59	12.1	
	4/4	0	0	122	24.7	
Department	Medical	0	0	81	16.4	<0.001
	Surgical	0	0	187	37.9	
	Emergency unit	0	0	61	12.4	
	ICU	0	0	80	16.2	
	Others*	0	0	84	17.1	

* Others: burn unit, outpatient-clinic, x-ray, endoscopy, OR

Table 3 displays the logistic regression analysis of factors predicting good performance among nurses working in secondary health care level which show that the main predictors of good performance were absence of stress, absence of working shifts and working in department other than surgical department. Rated performance differences between the nurses working in primary and secondary levels of care were also found in different subscales of performance, such as leadership, critical care, teaching, and communication. Primary health care level nurses rated better skills of teaching with a mean of (31.64 vs. 29.45) and communication(40.91vs.39.39), while secondary health care level nurses had better leadership skills (13.5 vs. 10.49) and better care of the critical patients(23.24 vs. 21.01) (Table 4).

Discussion

From the increasing interest in improving health care quality, comes the importance of enhancing nurses' performance as they involved in a large aspect of patient care. The current study assessed the level of self-rated performance for nurses working in different levels of health care system in Dammam region eastern province Saudi Arabia. Results of this study revealed that almost more than half of the studied nurses rated good performance scores in primary (54.2%) as well as secondary (53.5%) levels of health care with an overall performance of (53.7%). Such findings are congruent with previous studies.[23] Maryyan et al (2008) found that Jordanian nurses perceived their performance to be good with higher rates than previous studies of McCloskey and McCain's (1988).[23]

One of the main objectives of the present study is to identify determinants of nurses performance focusing on socio-demographic and selected work characteristic, in primary health care level no significant factors were found to affect performance, whereas, in secondary level of care, several factors were found to have a significant relation with job performance such as qualification, nationality, work shifts and work department. Nurses with non-bachelor qualification performed better than did those with bachelor degrees, similar results were reported by Alahmadi et al. (2009) who were reported that, as the level of education increases, self-reported performance decreases.[24] This negative relationship may be explained by the higher expectation of the highly qualified nurses or limited opportunity for career advancement. In contrast to previous studies migrant nurses rated better performance than do Saudi nurses.[24] Such finding might be due to the rapidly evolving nursing career in Saudi Arabia, which highlights the importance of further research and assessment of the nursing profession in the area. The mentioned causation of the education and nationality as significant factors predicting performance are only speculation given the limited data on these issues. The job nature itself considering work shifts and department of work found to have a significant effect on performance.

Table-2: Performance and socio-demographic characteristic among nurses working in primary and secondary level of care

Socio-Demographic Characteristics		Performance Levels of Health Care								
		Primary (N=144)					Secondary (N=493)				
		Good (n=78)		Poor (n=66)		P-Value	Good (n=264)		Poor (n=229)		P-Value
		N	%	N	%		N	%	N	%	
Age in years	20-<30	21	26.9	16	24.2	>0.05	195	73.9	166	72.5	>0.05
	30-<40	32	41.1	33	50		49	18.6	48	21	
	40-<50	20	25.6	12	18.2		15	5.7	14	6.1	
	50-60	5	6.4	5	7.6		5	1.9	1	0.4	
Gender	Male	8	10.3	4	6.1	>0.05	42	15.9	25	10.9	>0.05
	Female	70	89.7	62	93.9		222	84.1	204	89.1	
Nationality	Saudi	77	98.7	66	100	>0.05	213	80.7	165	72.1	<0.05
	Non-Saudi	1	1.3	0	0		51	19.3	64	27.9	
Marital Status	Single	14	17.9	5	7.6	>0.05	85	32.2	75	32.8	>0.05
	Married	60	76.9	56	84.8		172	65.2	146	63.8	
	Divorced	3	3.8	4	6.1		4	1.5	5	2.2	
	Widowed	1	1.4	1	1.5		3	1.1	3	1.3	
No. of living children	<3	22	28.2	20	30.3	>0.05	89	33.7	74	32.3	>0.05
	≥3	34	43.6	31	47		31	11.7	24	10.5	
	0	22	28.2	15	22.7		144	54.5	131	57.2	
Job Position	Head nurse	13	16.7	4	6.1	>0.05	6	2.3	9	3.9	>0.05
	Staff nurse	62	79.5	61	92.4		235	89	201	87.8	
	Nursing assistant	3	3.8	1	1.5		23	8.7	19	8.3	
Total Experience (years)	Less than 5	11	14.1	7	10.6	>0.05	151	57.2	126	55	>0.05
	5-<10	16	20.5	12	18.2		64	24.2	65	28.4	
	10 or more	51	65.4	47	71.2		49	18.6	38	16.6	
Current Experience (years)	Less than 5	18	23	12	18.2	>0.05	142	53.8	111	48.5	>0.05
	5-<10	19	24.4	15	22.7		47	17.8	50	21.8	
	10 or more	39	50	32	48.5		24	9.1	23	10	
	Refuse to answer	2	2.6	7	10.6		51	19.3	45	19.7	
Monthly Income (SR)	Less than 5000	19	24.4	14	21.2	>0.05	205	77.7	177	77.3	>0.05
	5000 - <10000	32	41	30	45.5		38	14.4	32	14	
	10000 or more	27	34.6	22	33.3		11	4.2	13	5.7	
	Refuse to answer	0	0	0	0		10	3.8	7	3.1	
Qualification	Bachelor	8	10.3	6	9.1	>0.05	50	18.9	61	26.6	<0.05
	Non- bachelor	70	89.7	60	90.9		214	81.1	168	73.4	
Post-graduate	Master	0	0	0	0	-	4	1.5	4	1.7	>0.05
	PHD	0	0	0	0		0	0	1	0.4	
	None	78	100	66	100		260	98.5	224	97.8	
Shift	Present	0	0	0	0	-	212	80.3	203	88.6	<0.05
	Absent	78	100	66	100		52	19.7	26	11.4	
Department	Medical	0	0	0	0	-	43	16.3	38	16.6	<0.001
	Surgical	0	0	0	0		117	44.3	70	30.6	
	Emergency unit	0	0	0	0		34	12.9	27	11.8	
	ICU	0	0	0	0		25	9.5	55	24	
	Others*	0	0	0	0		45	17	39	17	

* Others: burn unit, outpatient-clinic, x-ray, endoscopy, OR

Table-3: logistic regression analysis of significant factors predicting good performance among nurses working in primary and secondary health care levels

Variables	B coefficient	S.E. of B	P-Value	O.R.	95 % CI
Absence of shifts	0.808	0.313	0.010	2.244	1.214-4.146
Department (other than surgical)	0.074	0.035	0.032	0.928	0.867-0.994
Absence of Stress	0.494	0.205	0.016	1.640	1.098-2.449
Constant	217.056	4.350	-	-	-
Model $\chi^2_{(16)} = 26.162, P > 0.05$					

Table-4: Performance subscales scores of nurses

Performance Subscales	Primary Level Mean ± SD	Secondary Level Mean ± SD	P Value
Leadership	10.49 ± 7.898	13.50 ± 5.207	0.000
Critical care	21.01 ± 6.974	23.24 ± 5.223	0.000
Teaching	31.64 ± 11.197	29.45 ± 10.582	0.031
Planning	19.59 ± 8.863	10.32 ± 6.535	0.361
Communication	40.91 ± 7.803	39.39 ± 7.806	0.040
Personal development	34.38 ± 6.687	33.52 ± 5.465	0.159
Total Performance	158.02 ± 39.729	159.42 ± 31.055	0.698

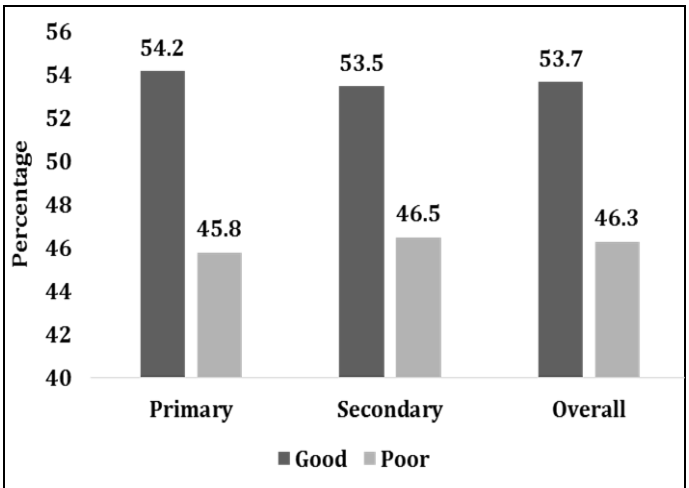

Figure-1: Performance level among nurses working in different health care level

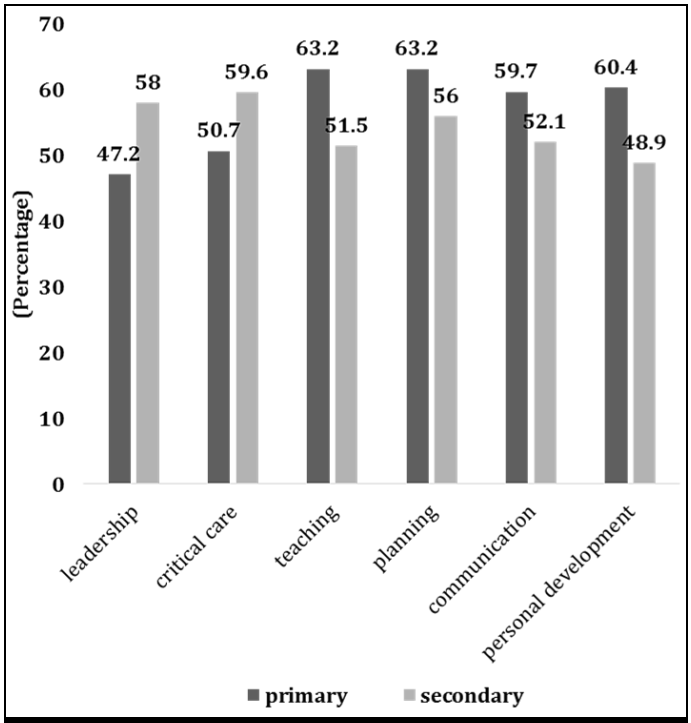

Figure-2: Good performance in different subscales among health care levels

Nurses working in Intensive Care Unit (ICU) department rated lower performance than others. This finding confirms the finding of other researchers who consider ICU nurses performance to be impeded by several factors.[25] Work shifts also have a significant negative predictive effect on performance; this result is in harmony with earlier studies.[26] Coffey et al. (1988) stated that work shifts have a negative effect on overall performance as well as different performance subscales specifically leadership and professional development.[26] Age, gender and marital status, as a personal characteristic, found to have no significant relation with performance in the present study which concurs with results of previous studies[27], while work characteristics such as nurse's years of experience and income found to contradict previous studies and having insignificant relation with performance[28].

According to Schwirian six dimension scale, performance is subdivided into six different subscales which are leadership, critical care, communication, teaching, planning and personal development. Primary health care level nurses rated higher means of performance in the teaching and communication subscales while secondary health care level nurses scored higher means of leadership and critical care subscales of performance. The logical interpretation of these results indicates that work conditions improved skills of nurses according to the job demands, variety and challenges in the job across the different level of healthcare system.

No significant predictor of performance among primary health care level nurses was found. While in secondary level of health care nurses, work shift, department of work and stress were found to be significant determinants of performance. These results are supported by earlier studies in the literature.[25,26]

Conclusion

Nurse's performance according to the present study was affected by stress, work shifts and working in a specific department such result emphasize the importance of implementing effective strategies to assess and manage stress. Work shifts and other work conditions should be re-examined to ensure more suitable work situation.

Stress management programs might be helpful in reducing level of stress that has been found in this study to be negatively correlated with performance. These programs could offer support, communication, training, reward and recognition of good performance, managing workload, staffing and positive work environment through effective human resources management, and such measures could empower and motivate nurses and eventually, enhance performance and patient care.

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