JOB CHARACTERISTICS MODEL TO REDESIGN NURSING CARE DELIVERY SYSTEM IN GENERAL SURGICAL UNITS

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ABSTRACT

Nursing care delivery system defines how work is organized, how nursing staff are deployed and who will provide nursing care. The nursing care system are enforced to redesign roles of the caregivers specially nurses role. Job design refers to the characteristics of jobs, such as the variety of skills demanded, that affect the satisfaction of nurses. The concept of job characteristics model focuses on designing a job so that it motivates a person. Little is known about the relationship between nurses' work design, how they actually spend their time, and the value and satisfaction. Hence, the present study aims to redesign nursing care delivery system by restructure role of staff nurses by using job characteristic model. The study subjects include 52 nurses working in all inpatient surgical departments at Mansoura University Hospital. Three tools were used for data collection, namely; An Observation Sheet, Job Diagnostic Survey and Worth of Nursing Care Activities Questionnaire. The study findings indicated that there were no significant relationship between nurses' job characteristic and their job satisfaction and most nurses reported moderate or low mean score for perceiving their job characteristics and job satisfaction. As well as non-nursing care activities compose the greatest proportion of time spent by nurses in the study special in messenger activities and only 29.83% of nurses' time spent on direct care activities. It is recommended to the developed system imposed by organizations should be included information and experiences opportunities concerning the importance of job characteristic model to improve nurses' satisfaction and value of their care activities and hiring clerical employees as assistance to achieve non-nursing care activities specially messenger activities .

Keywords: Nursing care delivery system, Job design, Job characteristics model, work satisfaction.

INTRODUCTION

Nursing and hospital administrators have struggled for more than 100 years with the question of how to deliver appropriate nursing care to patients in an efficient and effective manner. To ensure that nursing care provided to patients, the work must be organized. The decisions of which nursing care delivery model is used based on the needs of the patients and the availability of competent staff in the different skill levels. Nursing care delivery system organizes the work of caring for patients. Nursing care delivery system is the core of the hospital work (Kelly Heidenthal,2004).

Nursing care delivery systems are complex and subject to the economic, social, political, and technological influences of the time period (Marquis and Huston, 2009). Nursing care delivery system defines how work is organized, how nursing staff are deployed and who will provide nursing care. Delivering systems identifying who has the accountability for nursing care and clinical outcomes Young and Llsun, 2010). Nursing care delivery systems were developed to describe a structure for the organization of nursing work, to identify the types of health care workers providing the nursing care, and to define the boundaries for the delegation of

authority. Registered nurses work in several different settings and have many different job titles, responsibilities, and credentials(Marquis and Huston, 2009).

Traditional delivery systems form a framework that can be modified to meet the uniqueness of the particular agency setting; however, measuring the effectiveness of such a system is complex and difficult. The efficiency and effectiveness of any system usually is evaluated by measuring four factors: quality patient care, patient satisfaction, nursing job satisfaction, and cost effectiveness for the health care organization. Job satisfaction is the function of complex interactions of economic, social and psychological factors (Penz et al.,2008) that are subject to three major areas for measurements: professional job characteristics, organizational attributes and effects on patient outcomes and quality of care. The nursing care system are enforced to redesign roles of the caregivers specially nurses role. Work has been described as varying according to a number of dimensions: skill variety, task identity, task significance, autonomy, and feedback (McGillis Hall and O'Brien-Pallas,2000, Tyler et al.,2006).

Job design refers to the characteristics of jobs, such as the variety of skills demanded, that affect the satisfaction of employees. Job design theory suggests that job design influences employee performance through five key characteristics: skill variety, task identity, task significance, autonomy, and intrinsic feedback (Tyler et al.,2006). The concept of job characteristics model focuses on designing a job so that it motivates a person. Generally, job satisfaction of nurses directly impacts their intent to stay or leave (Kovner et al., 2006) and therefore, their retention. Job characteristics are objective characteristics of jobs, particularly the degree to which jobs are designed so that they enhance the internal work motivation and the job satisfaction of job incumbents (Kwak et al.,2010).

The job characteristic model predicts that if the aforementioned job features are present in a job, the job incumbent will be more likely to have high internal work motivation, high quality and performance, high satisfaction with the work and low absenteeism and turnover (Hadi and Adil,2010). Job characteristics play an important role in organizational theory. It makes it possible to identify differences and similarities between jobs and to determine internal work motivation in designing and redesigning jobs. The model states that there are five core job characteristics (skill variety, task identity, task significance, autonomy, and feedback) which impact three critical psychological states (experienced meaningfulness, experienced responsibility for outcomes, and knowledge of the actual results), intern influencing work outcomes (job satisfaction, absenteeism, work motivation, etc) (Buys et al., 2007).

Over the last 20 years Hospital staff nurses assume roles have expanded to a limited extent in response to the health care system reforms and the development of patient-centred nursing care (Moosazadeh et al.,2011). The roles now reflect the work undertaken by nurses in many other countries with developed health care systems and include: assessing the physical, psychological and social status of patients, consulting with patients about planned care, evaluating the outcome of care and working closely with other numbers of the health care team components of their working lives (Lu et al., 2008) . Changes in the system of care can impact on the quality of work relations, working conditions and supervisory relations, all of which have been shown to influence staff outcomes such as job satisfaction. Job satisfaction is one of the most prevalent outcomes examined when changes are made to the nursing staff mix or care delivery models (Hall & Doran,2007).

The complexity of the nursing work environment today involves leadership resources, availability of technology, culture, and measures of workload. Nursing researchers are still testing nursing care delivery systems, but have not achieved success in identifying specific cost-effective systems different roles for Registered Nurses(RNs) have been developed over the years to complement and support nurses and physicians delivering care at the bedside (Bryant-Lukosius et al., 2004).

In recent years a variety of new health care workers have emerged in patient care delivery models through work redesign efforts in long-term care settings, yet research on the efficacy of these models is limited. With the changing economic environment in health care, organizations are forced to re-examine how they coordinate patient care overall, how this influences the work nurses are performing, and reassess whether RNs are the appropriate resource to complete that work (McGillis Hall and O'Brien-Pallas,2000).

Little is known about the relationship between nurses' work design, how they actually spend their time, and the value and satisfaction they have for the work they are performing. Although theories have been developed that explain the relationship between people and their work satisfaction. Few studies have examined mid-level organizational factors, such as job design, and their effects on satisfaction (Tyler et al.,2006). Based on these findings several opportunities for nursing work design are evident. Changes to the work roles of the caregiver groups could be explored, particularly in reference to the time spent in non-nursing care professional registered

nurse caregivers. Preliminary research in this area suggests that job design is one element in a facility's overall approach that has consequences for both care quality and employee outcomes(McGillis Hall and O'Brien-Pallas,2000).

Significant of the study

Many changes are being made that seem likely to affect nurses' jobs and satisfaction, such as the creation of integrated delivery systems, continued decreases in length of stay, and the introduction of multifunctional workers. Links between specific activities and characteristics remain an under researched topic. Yet little is known about effects on job characteristics and related outcomes. Unfortunately, as in work redesign generally; there is a lack of research relating specific activities of staff nurses jobs to perceptions of particular characteristics. With the changing economic environment in health care, organizations are forced to re-examine how they coordinate patient care overall, how this influences the work nurses are performing, and reassess whether professional nurses are the appropriate resource to complete that work. In the surgical and medical units where the type of patient care required promotes opportunities for using a variety of caregiver roles. Nursing literature has consistently revealed that nurses do not value time spent in indirect care or non-nursing activities and participation in these activities reduces the significance of the overall work that they complete demanding have a positive effect on nursing staff. It was observed in the medical and surgical units staff nurses was have assigned multi-roles as caregiver, communicator, and collaborator in these units and spent most time in non-nursing activities and consequently this affect in time spent for patient care. As well as head nurses and staff nurses of the study units commented to the researchers that nurses are workloaded and not able to fulfill these multiple roles. So, present study attempt to redesign nursing care delivery system by restructure role of staff nurses by using job characteristic model.

RESEARCH QUESTIONS

The specific research questions are:

1. How dose nurses spent their time?
2. How dose nurses perceive their job?
3. If there is relationship between job characteristic and job satisfaction?
4. If nurses perceptions of the value of their work effect on their job satisfaction?

AIM AND OBJECTIVES

The aim of the study is to redesign nursing care delivery system in general inpatient surgical units through:

1. Assessment of current nursing care delivery system using activity analysis technique to determine time spent by nurses in different levels of activities in the nursing units.
2. Assessment of work design using job diagnostic survey.
3. Assessment of nursing staff perception about worth of nursing care activities.
4. Assessment of job satisfaction among nursing.

RESEARCH METHODOLOGY

Design

A cross-sectional descriptive study design was used.

Setting

The study was carried out in four general surgical inpatient units at Mansoura University Hospital. The total bed capacity of all units is 145 beds. The four inpatient units were selected to provide a representative variety of services for admission patients.

Sample

All staff nurses assigned to the selected four inpatient units during the time of the study was included in the study. They included 52 nurses in general surgical units.

Tools of data collection

Three tools were used for data collection, namely; Observation Sheet, Job Diagnostic Survey (JDS), which includes two parts (job dimension & job satisfaction),and Worth Nursing Care Activities Questionnaire

I. An Observation Sheet

It was developed by department of health education and welfare,(1964) and adopted to record and analyze nursing activities. It aims is to measure of how time was spent and list of care activities. It includes staff and time of observation, brief description of activity, the area into which the activity fallen (purpose) and the skill level required for its performance (level). These activities are adopted into three major areas of nursing care activities namely; direct, indirect, and non-nursing care. Direct nursing care activities includes all nursing care activities which performed in the presence of the patient such as administration of medication and treatments, obtaining specimens etc. While, indirect nursing care includes all nursing care activities which done away from the patient such as giving report, preparing equipment, preparing medication etc. Non-nursing activities which includes all activities not related patient care such as stocking supplies and running errands are unit-related activities needed for managing and coordinating patient care on the unit and also all personal nature activities as break and meal time.

The skills levels were *Administration*: includes activities requiring nursing judgment and involve responsibility for planning and providing patient care. *Nursing*: includes the direct and indirect activities related to giving nursing care to patients. *Clerical*: includes counting, ordering and recording activities. *Dietary*: activities concerned with routine serving of fluids, food and nourishment. *Housekeeping*: activities concerned with the appearance of unit environment. *Messenger*: includes activities requiring absence from the unit. *Unclassified*: includes activities that are eliminated by the definition from any of the preceding codes that refer to the person as an individual.

II. Job Diagnostic Survey

It was developed by Hackman and Oldham(1980) to assess job dimensions and satisfaction for nurses working in the study units. These questionnaire consisted of three parts:

First part: included demographic characteristics of nurses as; age, educational qualification, and years of experience.

Second part: included job dimensions which developed by Hackman and Oldham(1980)[16]. It includes seven job dimensions: skill variety (3 items), task identity (3 items), task significance (3 items), autonomy (3 items), feedback from the job itself (3 items), Each dimension was measured by three items using a seven-point Likert scale namely; Very little 1, Slightly little 2, Little 3, Moderately 4 , Moderately much 5, Much 6, Very much 7. The average scores of three items were calculated to represent each dimension.

Third part: It was developed by Hackman and Oldham(1980)[16] to measure all the components of the job satisfaction. Respondents' perceptions are measured in two sections, namely; general satisfaction (5 items), and specific satisfaction: pay (2 items), security (2 items), social (3 items), supervisor (3 items),as well as growth (4 items). The responses scored using 7-point rating scales ranged from extremely dissatisfied (1) to extremely satisfied (7).

III. Worth of Nursing Care Activities Questionnaire.

It was developed by the researcher based on related literature (Gould et al.,1996,McGillis Hall and O'Brien-Pallas,2000, Tyler et al.,2006) to assess of the value assigned to specific care giving activities and to determine what activities that performed by staff nurses and which could be delegated to other assistance nursing staff in which nursing staff are involved in the study units. This questionnaire included 47 different activities that were designed to relate to the nursing work categories used for observation sheet. It organized into the three categories namely; direct care activities, indirect care activities, and non-nursing care activities. As regards to the importance of activities for nurse, the responses scored using three-point rating scales ranged from important (1) to not important (3). As well as they were asked to give their opinions about what care activities can be performed by staff nurse and other can be delegated to assistance nurse, they response the responses scored using three-point rating scales ranged from not delegated (1) to delegated (3).

Methods of Data Collection

1. A permission to conduct the study was obtained from the director of Main Mansoura University Hospital.
2. Tools of data collection were translated into Arabic and were tested for its content validity and relevance by a jury consisted of 3 academic staff in Nursing Administration Department at Mansoura, Alexandria, and Tanta University. And 9 staff nurses from different inpatient surgical units at Mansoura University Hospitals. The necessary modifications were performed.
3. Reliability: using Cronbach's alpha, the internal consistency of job characteristics survey was 0.86
4. A pilot study was conducted on 15 of staff nurses (whom are not included in the study) working at Main Mansoura University Hospital in order to ascertain its clarity and feasibility.

5. The questionnaire was distributed to the study nurses to answer the questions. Each sheet took 20-30 minutes to be answered. Data collected in two months starting June 2011.
6. Ethical consideration; all participants interviewed for explaining the purposes and procedures of the study, and they have the right to withdrawal from the study any time during the study. Oral consent to participate was assumed by attendance of filling questionnaire sheet.

Statistical analysis

The collected data were organized, tabulated and statistically analyzed using SPSS software statistical computer package version 10. Data summarized using mean and standard deviation for numerical variables. For comparative purpose, score are presented as absolute values and as percentages from the maximum score of each topic. This maximum score depends on the number of items of each topic and comparison of means was done using t-test for independent samples. For qualitative data, comparison between two groups and more was done using test (f). For comparison between means of the study groups study t-test was used. Correlation between variables was evaluated using Pearson's correlation coefficient. The threshold of significance was fixed at the 5% level for interpretation of results of tests of significance.

RESULTS

Table 1. Demographic characteristics of the study subjects (n=52).

Characteristics	No.	%
Age		
20-	13	25
30-	18	34.62
> 40	21	40.38
Mean $\pm$ S.D	33.980 + 8.947	
Years of experience		
< 5	15	28.85
5-	11	21.15
10$\geq$	26	50
Mean $\pm$ S.D	15.076 + 9.434	
Educational qualification		
-Technical Institute of Nursing	13	25
-Diploma degree	30	57.69
- Diploma+ specialty	9	17.31
Marital status		
-Single	12	23.08
- Married	40	76.92

Table 1 shows the demographic characteristics of the study subjects in the study units. As regard to the age, about 40.38% of nurses were in the age group more 40 years old and 25% were age ranged from 20 to less than 30 years old. Most of nurses in the study 57.69 % held a nursing diploma and 17.31% has diploma with specialty. As for years of experience in nursing profession, a half of nurses in the study had 10 to more years of experience, and 76.92% of them were married.

Table 2. Mean, standard deviations and t-value differences of staff nurses' perceptions in relation to job characteristics model in the study units.

Component of job characteristics	Staff nurses' perceptions Mean $\pm$ S.D	t	p
Skill variety	13.1346 $\pm$ 3.068	-2.034	.047*
Task identity	13.2692 $\pm$ 2.964	5.520	.000*
Task significance	12.8462 $\pm$ 2.061	6.457	.000*
Autonomy	11.7308 $\pm$ 3.320	-.585	.561
Feedback from job itself	12.8846 $\pm$ 2.564	-3.137	.003*
Total job dimensions	**63.8654 $\pm$ 6.324**	2.127	.038*
*%**	**60.82**		

Significant difference at p< 0.05

*** Percentages are calculated relative to maximum score.*

Table 2 shows mean, standard deviations and t-value differences of staff nurses' perceptions in relation to job characteristics model in the study units. This table showed a statistical significant differences for all components of job characteristic model except autonomy component was no significant among nurses (t=-.585, p< 0.05). The overall job characteristics mean score among nurses was 63.86 representing 60.82% of maximum score. The highest mean score was 13.26 for task identity, while least mean score was perceived 11.73 for autonomy component.

Table 3. Mean standard deviations and t-value differences of staff nurses' perceptions in relation to job satisfaction.

| Job satisfaction elements	Staff nurses' perceptions Mean $\pm$ S.D	t	p
a. General satisfaction	18.4423 $\pm$ 3.505	13.251	.000*
-with pay	6.8462 $\pm$ 6.472	3.171	.003*
-with security	7.5769 $\pm$ 2.837	9.089	.000*
-with social	11.1923 $\pm$ 4.139	-8.374	.000*
-with supervisor	8.9808 $\pm$ 3.159	-2.327	.024*
-with growth	13.0385 $\pm$ 3.824	3.844	.000*
b. Total Specific satisfaction	47.6346 $\pm$ 9.145	2.077	.043*
Total job satisfaction %**	**66.0769 $\pm$ 10.337 49.68**	6.332	.000*

Significant difference at p< 0.05
** *Percentages are calculated relative to maximum score.*

Table (3) shows mean, standard deviations and t-value differences of staff nurses' perceptions in relation to job satisfaction. This table shows there was a statistically significant difference between staff nurses perceptions regard to job satisfaction (p<0.05). The overall level of job satisfaction mean score among nurses was 66.076 representing 49.68% of maximum score. The total specific job satisfaction mean score was 47.63. This table shows the highest mean score was 13.03 for specific satisfaction related to growth and followed by satisfaction with social 11.19. On the other hand satisfaction with pay represented the lowest mean score 6.84.

Table 4. Number and percentage of staff nurses' perception regarding worth of direct nursing care activities (n=52)

Direct nursing care activities	Important & not delegated		Not important &delegated	
	No.	%	No.	%
1.Giving patient's treatments and medication	33	62.3	6	11.3
2.Nasogastric tube patient's feeding	29	54.7	8	15.1
3.Patient's elimination	12	22.6	20	37.7
4.Patient's hygiene (bathing)and comfort	15	28.3	17	32.1
5.Patient's communication &health education	11	20.8	19	35.8
6.Gathering specimens and testing	16	30.2	18	34.0
7.Helping physician in diagnostic procedures	20	37.7	15	28.3
8.Doing round with physician	20	37.7	19	35.8
9.Making occupied bed	8	15.1	22	41.5
10.Taking vital signs for postoperative & unstable pt	22	41.5	15	28.3
11.Taking routine vital signs for stable patient	13	24.5	15	28.3
12.Making complex dressing	29	54.7	13	24.5
13.Preparing & giving insulin	21	39.6	15	28.3
14.Trachoostomy suctioning	26	49.1	8	15.1
15.Gathering intake and output	13	24.5	13	24.5
16.Turning, moving and transfer patient	15	28.3	18	34.0

Table (4) shows number and percentage of staff nurses' perception regarding worth of direct nursing care activities. . In this table shows 62.3% of nurses reported that giving patient's treatments and medication is important and non delegated direct nursing care activities and followed by 54.7% was reported for nasogastric tube feeding and making complex dressing. While the least percentage was reported for making occupied bed and patient's communication and health education 15.1% and 20.8% respectively.

Academic Research International

ISSN-L: 2223-9553, ISSN: 2223-9944
Vol. 2, No. 1, January 2012
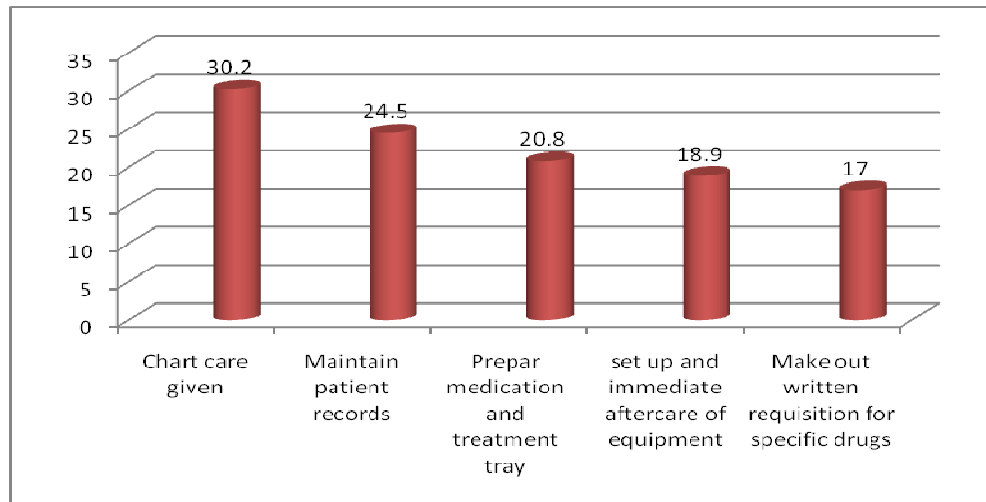
Figure 1. Percentage of staff nurses' perception regarding important and non delegated indirect nursing care activities.

Figure1 shows number and percentage of staff nurses' perception regarding worth of indirect nursing care activities. This table revealed that the highest percentage of important and non-delegated indirect care activities was 30.2%reported for charting care given and followed by 24.5% was reported for maintaining patient record. While the least percentage was 17% reported for making out written requisition for specific drugs, diet, supplies or equipments.

Table 5. Number and percentage of staff nurses' perception regarding non-nursing care activities.

Non-nursing care activities	Important& not delegated		Not important &delegated	
	No.	%	No.	%
1.Obtain medication from pharmacy	10	18.9	23	43.4
2.Obtain supplies & equipments	7	13.2	23	43.4
3.Clean environment around patient after care given & procedure	10	18.9	19	35.8
4. Prepare unit paperwork as statistical reports & patient's admission sheets	14	26.4	17	32.1
5.Make telephone communication with other department related to patient's matter	6	11.3	22	41.5
6. check supplies & equipments stock	8	15.1	22	41.5
7.Requist diet for patients	9	17.0	24	45.3
8.Foley catheter removal	10	18.9	20	37.7
9. Prepare bed/room for admission or transfer patient	10	18.9	22	41.5
10. Transport patient's procedures	9	17.0	23	43.4
11. Make unoccupied bed	9	17.0	21	39.6
12. Deliver mail to patients	5	9.4	25	47.2
13. Deliver sterile supplies to arrive physician to make dressing	5	9.4	23	43.4
14.Check routine unit maintenance furnishings	9	17.0	23	43.4
15. Bring patient to unit from recovery room	7	13.2	24	45.3
16. Accompany patient to other parts of hospital x-ray	10	18.9	23	43.4
17. Take patient to operating room	18	34.0	18	34.0
18.Check & write medication list	10	18.9	18	34.0
19.Attach patient's investigations results& x-Ray to patient file	5	9.4	28	52.8
20.Call laboratory about blood specimens	3	5.7	26	49.1
21. Chart enema results	9	17.0	22	41.5
22. Make chart for new patient	10	18.9	21	39.6
23. Give shift report	12	22.6	19	35.8
24. Preparing intravenous therapy tray	8	15.1	24	45.3
25. Make bed bath to unconscious patient	19	35.8	13	24.5
26.Make cleansing enema	12	22.6	23	43.4

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Table 5 shows number and percentage of Staff nurses' perception regarding non-nursing care activities. In this table shows 35.8% of nurses reported that making bed bath to uncounscious patient is important and non-delegated activity and followed by taking patient to operating room 34%. While least percentage was reported for calling laboratory about blood specimens 5.7%. And 9.4% was reported for delivering mail to patients, delivering sterile supplies for dressing, and attaching patient's investigations results to patient file.

Table 6. Percentage of time spent for each area and level of activities by the study nurses in the study units

Levels Areas	Administ er.	Nursin g	Clerical	Housk eep.	Dietar.	Messen g.	Unclass if.	Total Levels
Direct care activities	1.52	22.38	5.42	-----	0.51	----	----	29.83
Indirect care activities	1.96	8.01	7.8	0.54	0.59	5.66	-----	24.56
Non-nursing care activities	4.26	6.16	11.13	2.97	1.04	8.56	11.49	45.61

Table 6 shows percentage of time spent for each area and level of activities by the study nurses in the selected inpatient units. The table shows that highest percentage of nurse's time 36.55% was spent in nursing activities and followed by 24.35% of their time in clerical activities. However 8.56% of percentage was spent in messenger activities of non-nursing care activities as go and receiving requests from paramedical departments.

Table 7 shows relationship between nurses' job characteristics and their job satisfaction in the study settings. The results revealed that there are no significant correlation between total job satisfaction score and total job dimension. This table also shows that there is a significant positive correlation between specific social satisfaction and task identity. This table shows that a negative statistically correlation between autonomy with special social and supervisor. Most of the job satisfaction components were also not significantly correlated with job dimension components, which not proved to be significantly correlated statistically.

Table 7. Relationship between nurses' job characteristics and their job satisfaction in the study units.

Component	Skill variety	Task identity	Task significant	Auton omy	Feedbac k from job	Total job dimension
General satisfaction	-.026	-.036	.064	.137	.021	.072
Specific satisfaction with pay	-.077	.098	-.049	-.038	.152	.035
Specific satisfaction with security	.05	.095	.129	.117	-.074	.105
Specific satisfaction with social	-.152	.331*	-.049	-.307*	-.118	-.144
Specific satisfaction with supervisor	.002	.051	-.055	-.337*	.135	-.115
Specific satisfaction with growth	.025	-.013	-.076	-.036	-.050	-.058
Total specific satisfaction	-.095	.261	-.068	-.261	.027	-.072
Total job satisfaction	-.092	.219	-.038	-.184	-031	-.039

*Correlation is significant at the 0.05 level (2-tailed)
**Correlation is significant at the 0.01 level (2-tailed)

DISCUSSION

With the changing economic environment in health care, organizations are forced to re-examine how they coordinate patient care overall, how this influences the work nurses are performing, and reassess whether registered nurses are the appropriate resource to complete that work. This issue has particular relevance to long-term care settings where the type of patient care required promotes opportunities for using a variety of caregiver roles. However, changes in organizational models of care delivery in health care setting may have resulted in a reconfiguration of nurses' role in the health care system to an indirect role of coordinating the patient care process (Hall and O'Brien-Pallas,2000).

Results in the present study provided evidence of the importance for redesigning nursing care delivery system. To ensure optimal utilization of nurses, the nursing care delivery system in the study units was determined the job characteristics of nurses and assessed nurses' time and tasks that could be delegated to assistance personnel. This mean that nurses who spent the most time on direct nursing care activities have positive value perceptions of their work and job satisfaction. Thus the present study focuses on redesigning nursing care delivery system and study the relationship between nurses' job characteristics and work satisfaction.

Job characteristics play an important role to identify differences and similarities between jobs and to determine internal work motivation and job satisfaction. Overall, the results of the present study were no significant relationship between nurses' job characteristic and their job satisfaction. It was being indicated that most nurses reported moderate or low mean score for perceiving their job characteristics and job satisfaction. This may be contributed to evidence of strong causal relationships between job characteristics and well-being outcomes have been piecemeal and limited in scope. This finding is not harmonious with Hoonaker et al.(2004) study' who considered job characteristic as a significant model predicting job satisfaction with task identity which explaining the largest amount of variance in job satisfaction. Likewise, Yen and Lin(2007) found that the more enriched the job, the greater the job satisfaction and less intention to leave the job. And Hadi and Adil (2010) predictive validity of job characteristics in relation to work motivation and job satisfaction. It was supported by Parker et al.,(2001)[20] who reported that the collective effects of the core job characteristics on responses of satisfaction and motivation have been largely supported.

According to Hackman&Oldham(1980) defined task variety has been defined as the degree to which an individual is required to use a number of different skills and talents to perform a variety of different activities. Results of the present study revealed that mean score of this dimension in all studied subjects were 13.13 score. This may be due to nurses perceived their job duties were not boring or repetitious and they did not have to do same things every day. This is supported by Moosazadeh et al.,(2011) who point to because of the hospital dynamic working environment in which even clerical workers experienced variety of duties.

Task identity is defined as the degree to which a job requires completion of a whole and identifiable piece of work that is, doing a job from beginning to end with a visible outcome. While task autonomy as the degree to which the job provides substantial freedom, independence and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out Hackman&Oldham(1980). The results of the present study showed that job dimensions of task identity and autonomy play significant roles in nurses' satisfaction with social and supervisor relationship. This may be contributed to nurses' job provides substantial freedom, independence and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out.

As well as task identity composed 13.26 mean score of nurses' perception this may be contributed to when increased nurses' workloads may cause health care settings to revert back to assembly line approaches to patient care. When work is dispersed individual nursing personnel may be prevented from completing a whole task for their patients. For increasing job identity, staff nurses jobs should be designed to enable a nurse to provide holistic care to the same group of patients as opposed to fragmented care to many different patients and develop strong personal relationships with these patients and their families. Another explanation of the previous mentioned results nurses prefer to complete a variety of activities for fewer patients by caring for them as individuals rather than completing a series of tasks for a large number of patients. This is the same view of Tonges,(2005) who proposed that nurse assignments be arranged in a way that the nurse can care for the same patient from admission to discharge from the unit.

Similarly Katrinli et al.,(2009) results who showed job dimensions of task identity and autonomy play significant roles in nurses the job involvement. Hence, they recommended that nurse managers must consider these findings while designing jobs for nurses as individuals and as team members. Again Tonges,(2005) argued that when nurses have opportunities to make independent decisions related to interventions that they use with patients, they develop emotional ties with patients and their work. Thus, incorporating autonomy to nurses' jobs and increasing their acceptance of responsibility and personal accountability may have direct effects on patient well-being.

Acceptable levels of task autonomy and task identity should be incorporated into the jobs of nurses in order to retain qualified nurses. As Katrinli et al.,(2009) who emphasized that increasing nurses' autonomy, tend to feel more personal responsibility for successes and failures that occur on the job and are more willing to accept personal accountability for the outcomes of their work. While Moosazadeh et al.,(2011) recommended that lack of autonomy might have destructive effects for nurses whose need level for independencies high, at the same time it can be a good opportunity for managers to lead nurses energy toward organizational goals, which cannot be attained unless job design is revised to give more autonomy to workers. Therefore Varjus et al.,(2011)

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mentioned some factors enhance the autonomy of nurses in clinical practice such as supportive management, education, experience, lower workload and empowerment.

Task significance has been defined as the degree to which the job has a substantial impact on the lives or work of others. Findings of the present study revealed that were no significant relationship between dimension of task significant job characteristic and nurses' job satisfaction. And also findings revealed the mean of this dimension was 12.84 score. This may contributed to nurses in the study units perceived their job important for life and they generally think that what they are doing is of value based on public perceptions of professional role. This means that these nurses believe mainly work in a direct contact with patients so, their proper practice has significant impact on patients' treatment and returning them to ordinary life. This is supported by Moosazadeh et al.,(2011) who found that the mean of this dimension was higher than standard score in nursing and paramedical job categories, however this value was lower for clerical category.

Job feedback was defined as the degree to which carrying out the work activities required by the job provides the individual with direct and clear information about the effectiveness of his/her performance. Katrinli et al.,(2009) . Results of the present study revealed that this study mean score of this dimension was 12.88 score. This may be contributed to nurses have Feedback- knowledge of actual results of work activities and close relationship between supervisors and staff which are a strong factors which can lead them to be motivated and have better job performance. This is inconsistence with Moosazadeh et al.,(2011) who found that mean score of this dimension was lower than standard value in all studied categories.

Changes in the system of care can impact on the quality of work relations, working conditions and supervisory relations, all of which have been shown to influence staff outcomes such as job satisfaction. According to Boonzaaier et al.,(2001) who mentioned job characteristics model can be used to redesign job in order to enhancing motivation and satisfaction. The results of the present study for job satisfaction indicated that the overall score of nurses' job satisfaction reported by study nurses was 48.68% and there is a significant relationship between job characteristic of task identity dimension and satisfaction with social relationship. This may be explained as the lagged relationship between social support and job satisfaction seems to part the nature of work of nurses and a key characteristic feature of their jobs because workplace social support plays an important role in daily work.

In addition to nurses reported that they always provided routine patient care were more dissatisfied with their job and providing routine care for patients is generally considered to be low status work. This is the same view of Ding,(2005) who found nurses may feel less confident and autonomous when they do routine tasks which might lead to dissatisfaction with their job. Therefore, Lu and Barriball,(2008) found that differences between nurses' actual role content and role conflict. They also suggested nurses' role content may be associated with their role conflict.

Again, most nurses in the study units reported that they dissatisfied with pay and supervisor relationship. This is agree with Lu et al.,(2006) results' who found that common factors of job satisfaction were physical working environments, relationships with coworkers and managers, pay and promotion opportunities. Hence Hinno et al.,(2009) mentioned several factors to improve job satisfaction including supportive work environments, managing nurse clinical ladder and salary system, positive and authentic images or nursing, skills escalator, high supervisor support, high work group cohesion, variety of work, high autonomy, collaborative nurse–physician relationships, promotional opportunities, low work and fairness of pay rather than wages, management of high workloads and non-nursing tasks (Currie et al., 2005). These factors indicated that a set of hospital features ensuring a positive nursing environment not only enhanced nurses' job satisfaction, but it also supported their efforts to provide high-quality patient care (Hinno et al.,2009).

Professional job characteristics include factors associated with working as a nurse such as staffing, work hours, or workload that significantly correlate with job satisfaction (Best and Thurston, 2004). Specifically, workload had the second largest impact on job satisfaction among Korean nurses (Seo et al., 2004). In addition, supervisor support, work-group cohesion, promotional opportunities and distributive justice were important factors of job satisfaction (Kovner et al., 2006). However Lu et al.,(2008) findings' indicate that there were significant differences between nurses' actual role content and job satisfaction.

Nurses met patients needs through different nursing activities as nursing administration, clerical, housekeeping, dietary, messenger, besides activities of personal nature. Results in the present study revealed that non-nursing care activities compose the greatest proportion of time spent by nurses in the study special in messenger activities. This may be contributed to nurses spent the highest frequency of time accompanying patients to operating room, or to x-ray department, bringing medication from pharmacy and distributing or collecting request forms to the different departments. Therefore, hiring clerical employees as recommended by the

researchers will made the difference in time spent on messenger activities and was decreased approximately to one third. This is agree with Hall and Pallas,(2000) who found health care assistance personnel spent most of their time in non-nursing activities. And they recommended that health care assistance personnel are the most appropriate group to complete non-nursing care activities. Similarly, Yang and Cheng,(2004) have suggested the removal of non-nursing tasks from nurses' roles and responsibilities makes nurses have more time to carry out their professional roles and enhance psychological care for patients.

In the present study, nurses spent 29.83% of their time on direct care activities. These activities are direct and indirect activities related to providing nursing care to patients such as administrating medication, collecting investigation, assisting physicians with treatment and communicating with patient and only 24.56% of their time on indirect nursing care. These findings are similar to those studies of Hall and Pallas,(2000) who found 30.4% of nurses' time spent on direct nursing care. They also suggested that registered nurses highly value the ability to perform indirect as well as direct care activities.

Again findings of the present study revealed that some of the dimensions of care that make up direct nursing care activities represent a significant amount of caregiver time that is not necessarily considered part of an nurses role today, such as bathing and feeding. This may be contributed they are likely to assign these tasks to assistance nursing because these personnel moving in the health care settings to achieve these tasks with less of the skills. In contrast, direct care activities associated with treatments and respiratory support may be more appropriate activities for nurses. According to Eaton et al.,(2010) emphasized during shift, a nurse should be assigned all nursing tasks for a few patients and she should monitor, record and report symptoms and changes in those patients conditions, prepare those patients for, and assist with, examinations and treatments, and administer local, inhalation, intravenous and other anaesthetics instead of implementing one of those activities to many patients Hall and Pallas,(2000). As Joanne et al.,(2007) considered nursing assistants are important contributors in this patient care delivery system and they help the nurses in the provision of direct patient care.

Because nursing is usually the largest portion of caregiver hours, appropriately supporting the work of nursing is critically important (Suby,2009). Working Responsibilities of Health Care Personnel in Hospitals' is still widely used but does not reflect the changes in nurses' responsibilities. Therefore results of the present study hope to provide evidence for the needs to restructuring the nursing care delivery system to meet the changing needs of the consumers.

CONCLUSION AND RECOMMENDATIONS

Based on the study findings of this study, it could be concluded that job characteristics play an important role to identify differences and similarities between jobs and to determine nurses' job satisfaction. Overall, the results of the present study were no significant relationship between nurses' job characteristic and their job satisfaction. It was being observed that most nurses reported moderate or low mean score for perceiving their job characteristics and job satisfaction. Non-nursing care activities compose the greatest proportion of time spent by nurses in the study special in messenger activities and only one third of nurses' time spent on direct care activities. Therefore, hiring clerical employees as recommended by the researchers made the difference in time spent on non-nursing care activities specially messenger activities were decreased approximately to one third.

Based on the findings study, the following recommendations were detected:

1. Hospital administrators should appoint assistance employees in nursing units to carry out non-nursing care activities specifically related to messenger activities to relieve nurses for direct patient care.

2. There is a need for hospital administrators' to redesign nurses' work role to enhance nurses' job characteristics specially task identity.

3. System imposed by organizations should be included information and experiences opportunities concerning the importance of job characteristic model to improve nurses' satisfaction and value of their care activities

4. It is important to examine the factors within a given culture that contribute to improving interprofessional growth and development.

5. However, further research is necessary to determine if the complexity of patients in health care settings requires more involvement from professional nurses in direct patient care activities

6. Further research of the patterns of work activity is necessary to determine if different categories of caregiver are required to complete the work.

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