Relationship between Nursing Care Delivery Systems and Patients' Satisfaction in Medical Units

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Abstract: The nursing care delivery system is a very important asset that affects both patient satisfaction and organizational outcome. **The purpose of the study** was to determine the relationship between nursing care delivery system and patients` satisfaction at Benha University Hospital. Descriptive correlative research study was utilized to conduct this study. **The sample of this study** included 116 staff nurses and 375 patients at Medical Units in Benha University Hospital. **Instruments:** two Instruments were used for data collection of this study. The first instrument: Nursing care delivery system questionnaire, the second instrument: Patients' satisfaction questionnaire. **The result** showed that there was a statistical significant relation between patient's satisfaction and methods of nursing care delivery system, the case method was the most frequently at this units and the level of patient's satisfaction was highly. **Conclusion:** It is higher level of nursing care delivery systems were associated with highly level of patients` satisfaction. **Recommendation**: The staff nurses should adopt a practice model that addresses the necessity to match patient needs with nurse competencies.
Keywords: Nursing Care Delivery System, Patient Satisfaction.

Introduction

A nursing care delivery system defines how work is organized, how nursing staff are deployed, and who does what in providing nursing care. It identify who has the accountability for nursing care and clinical outcomes and provide the organization, rules and structure that define responsibility and accountability **(who does what) (Hayajneh,2013).**

Nursing care delivery models, also called care delivery systems or patient care delivery models, detail the way task assignments, responsibility, and authority are structured to accomplish patient care. The nursing care delivery model describes what health care worker is going to perform which tasks, who is responsible, and who has the authority to make decisions. The purpose of any delivery system is to provide high quality care, efficiently and effectively **(Barbara,2016).**

A patient care delivery model is the method or system of organizing delivery nursing care. The five well-known means of organizing nursing care for patient care delivery are total patient care, functioning nursing, team and modular nursing, primary nursing, and case management. Each of these basic types has undergone many modifications, often resulting in new terminology. The choice of an organizational model involves staff skills, availability, resources, patient acuity, and the nature of the work to be performed **(Danielle, 2012).**

By defining the components of the nursing care delivery system, the foundation of professional nursing practice is described. The professional practice model aligns and integrates nursing practice with the mission, vision, values and philosophy of nursing. The framework of our professional practice model guides the nursing strategic plan, identifying clear goals and expectations for all professional nurses to achieve optimal outcomes as defined in our nursing goals; Best People and Practice Environment, Best Patient Experience, Best Quality, and Best Financial Stewardship. The essential components of nursing care delivery system are responsibility, accountability, clinical decision making and making assignment **(Ann, 2017).**

Patient satisfaction is an important and commonly used indicator for measuring the quality in health care. Patient satisfaction affects clinical outcomes, patient retention, and medical malpractice claims. It affects the timely, efficient, and patient-centered delivery of quality health care. Patient satisfaction is thus a proxy but a very effective indicator to measure the success of doctors and hospitals **(Prakash,2010).**

In addition to being a requirement of accreditation, patient/customer satisfaction is important to the success of health care organizations as businesses. Satisfied patients will share their positive experience .Because the cost of obtaining a patient is high, losing a patient is a substantial loss of investment. Patient may have been attracted through advertising or an insurance contract. There is evidence of a reciprocal relationship between patient satisfaction and continuity of care. Conversely, dissatisfaction and complaints can mean not only loss of business/investment, but also increased risk of malpractice lawsuits Accreditation business improvement, and risk management are not the only reasons patient satisfaction is important **(Rodriguez,2009).**

Patient satisfaction, Four studies investigated patient satisfaction between the various models of care; however, data were presented in only two studies. In these two studies, no statistically significant difference in patient satisfaction between team nursing and primary nursing models and total patient care models. In the remaining two studies, patients were satisfied with their nursing care overall irrespective of whether the model of care was team nursing, case management. Wards that used a hybrid model that was a combination of patient allocation and team nursing models demonstrated significant improvement in quality of patient care (Ritin,2012).

Purpose of the study

The purpose of the study was to determine the relationship between nursing care delivery system and patients' satisfaction in medical units at Benha University Hospital .

Research Question

1. What are the types of nursing care delivery systems used in medical units at Benha University Hospital?
2. What is the level of patients' satisfaction in medical units at Benha University Hospitals?
3. Is there a relation between nursing care delivery system used in medical units and level of patients' satisfaction at Benha University Hospital?

Methods

Research design
Descriptive correlational research study was utilized to conduct this study.
Research setting
The study was conducted at Benha University Hospital in Medical Units because different nursing care delivery method are used in these units as patients stay long periods of time. The medical units include 6 units: (medical unit 1, medical unit 2,medical unit 3, medical unit 4, medical unit 5 and medical unit 6).

Sampling

- **The first group were the staff nurses :**

They included all staff nurses working at the above mentioned study setting. Their total number was 117 but 1 nurse refused to participate in the study, so 116 nurses were included in the study and were distributed as following: Number of staff nurses in medical units from 1 to 6 was (18, 20, 19, 20, 2,17 respectively).

- **The second group were the patients :**

A convenience sample of 375 patients who selected from the above mentioned study setting during study time.

The sample size was determined based on the following equation:

$$n = \frac{N}{1 + N(e)^2}$$

Where 'n' is sample size
'N' is total number of patients' in medical units
Attended to previously mentioned setting
'e' is Coefficient factor = 0.05%
The inclusion criteria: the patient should be:

- Consciousness.
- Educated.
- Stay at hospital from 2:5 days.
- Not isolated.

The exclusion criteria:

- Unconsciousness.
- Not educated.
- Stay at hospital less than 2 days.
- Isolated.

Instruments
To collect data for this study the following tools were used:
The first instrument:
Nursing care delivery system questionnair:

It was developed by Abd-El Gawad(2011) and modified by the researcher after reviewing there related literature (Tashonna, 2011) It was consisted of three parts:

- **Part(1):**It included social characteristics of nurses such as age, years of experiences, gender, social status, qualification, unit,etc.
- **Part (2):**This part was designed to describe the assignment procedures and the obstacles hindering this process .It consisted of 15questions.
- **Part (3):**This part was used to determine the nursing care delivery system it consisted of five questions .(a = 0.76).

The second instrument:
Patients' satisfaction questionnaire:

It was used to measure the patients' satisfaction .It was developed by El khouly (2015) and modified by the researcher after reviewing there related literature (Demir 2002, Matis 2009, Ahsan2012)**.** It consisted of two parts:

- **Part(1):**It included the demographic characteristics of the patient such as age , unit, gender, education, job, marital status,etc.
- **Part(2):** This part was used to measure the level of patient satisfaction .It included 36items divided under five categories (Patient reception and administration of physical care 9 items, administration of medication 4 items, preparation of investigation4 items, psychological support and keeping privacy 11 items, administration of health education to patient8 items).(a = 0.86).

Scoring system:

Subjects' responses were scored on three point likert scale as follow, 2(satisfied), 1(to some extent) and 0 (dissatisfied). The score of each dimension summed up and converted to percent score .

High satisfaction	>58%
Moderate satisfaction	36%-58%
low satisfaction	<36%

Pilot study
Pilot study was conducted in July 2017 to assess tool clarity and applicability. It has also served in estimating the time needed for filling the form .The study was tested on 10 % of total subjects, it was done on 11 staff nurses and 37 patients from Benha University Hospital .No modification was needed, so these staff nurses and patients were included in the main subject. The necessary clarification for some statements related to their translation to Arabic was done.

Validity of the study tools:

Face and content of study tools were validated by jury group which consisted of five Experts from Nursing Administration Department. Three Assistant Professors of Nursing Administration Department at Faculty of Nursing Tanta University, one Assistant Professor of Nursing Administration Department at Faculty of Nursing Zagazig University, one Professor of Nursing Administration Department at Faculty of Nursing Zagazig University. It took one month (May) 2017, minor modifications were done based on jury opinions.

Ethical Considerations

The study was conducted with careful attention to ethical standards of research and rights of the participants:

Informed consent
The respondent rights will be protected by ensuring voluntary participation, so the informed consent will be obtained by explaining purpose, nature time of conducting the study, potential benefits of the study, how data will be collected, no invasive procedure, expected outcomes and the respondent rights to withdrawing from the research study at any time in case of violation of his rights.

Anonymity and confidentiality
The respondent will be assured that the data will be treated as strictly confidential; furthermore, the respondent anonymity will be maintained as they will not require mentioning their names.

Scientific honesty
To ensure scientific honesty, the researcher used backetting and intuiting to avoid bias.

IV. Statistical analysis:

Data were verified prior to entry into computer. Statistical package for social science (SPSS, Version twenty) was used for that purpose, followed by data analysis and tabulation. Descriptive statistics were applied quantitative data (eg. arithmetic mean, standard deviation, frequency and percentage). A significance level value was considered when p-value $\leq$ 0.05 and a highly significance level was considered when p-value $\leq$ 0.001, while p- value > 0.05 indicated non-significance results.

Procedure:

1. An official permission was issued from Dean of the Faculty of Nursing to the Director of Benha

University Hospital to obtain the approval for data collection, the objectives and the nature of the study were explained and then it was possible to carry out the study with minimum resistance.

2. The data collection instrument was developed after review of the national and international related literature using journals, periodicals, textbooks, internet and theoretical knowledge of the various aspects concerning the topic of the study for modifying the tools and translating the tools into Arabic language and back translation to check its accuracy.

3. Each head nurse was interviewed after explaining the purpose of the study and getting agreement of head nurses to participate in the research.

Results

4. Data has been collected from head nurses in above mentioned study at Benha University Hospital.

5. Collection of data took three months at Benha University Hospital from beginning of July / 2017 to the end of September /2017, the researcher applied interview for study sample for three days per a week.

6. The time needed to complete questionnaire sheet 13 minutes.

7. The appropriate time of data collection was according to type of work and workload of each department, sometimes it was in the middle of the shift and other time before the end of the shift.

Table(1): Distribution of the Studied Nurses According to their Personal Characteristics (n =116)

Personal Characteristics	No	%
Age (years)		
25 <30	39	33.6
30 <35	30	25.9
35 <40	15	12.9
≥ 40	32	27.6
X̄±SD	34.4±7.1	
Social status		
Married	93	80.2
Un married	23	19.8
Qualification		
Nursing diploma	71	61.2
Technical institute	34	29.3
B.Sc. Nursing	10	8.6
Master degree	1	.9
Unit		
Medical unit 1	18	15.5
Medical unit 2	20	17.2
Medical unit 3	19	16.4
Medical unit 4	20	17.2
Medical unit 5	22	19.0
Medical unit 6	17	14.7
Years of experience		
1>5	4	3.4
5 > 10	36	31.0
10 >15	30	25.9
≥ 15	46	39.7
X̄±SD	14.3±7.3	

Table 1 illustrates distribution of the studied nurses. According to their personal characteristics in Benha University Hospital . The study showed that more than one third of the studied nurses (33.6%) had age from 25 to less than 30years old with a mean age of (34.4±7.1) years. As regarding to their marital status, the most of them (80.2%) were married. As for as to their qualification , more than three fifth of studied nurses (61.2%) had nursing diploma . According to their units , (19.0%) of them work in medical unit 5 . As regarding to their years of experience, less than one third of studied them (31.0%) had years of experience from 5 to 10 years and from15years and more respectively , with a mean years experience of (14.3±7.3)   .

Table(2): Distribution of Studied Patients According to their Personal Characteristics(n=375).

Personal Characteristics	No	%
Unit		
Medical unit 1	62	16.5
Medical unit 2	66	17.6
Medical unit 3	63	16.8
Medical unit 4	58	15.5
Medical unit 5	61	16.3
Medical unit 6	65	17.3
age		
<40	100	26.7
40-50	83	22.1
50-60	93	24.8
>60	99	26.4
X̄±SD	49.2±14.2	
Gender		
Male	176	46.9
Female	199	53.1
Marital status		
Single	38	10.1
Married	222	59.2
Divorced	36	9.6
Widowed	79	21.1
Educational level		
Illiterate	114	30.4
Reads and writes	80	21.3
Basic education	38	10.1
Secondary and equivalent	26	6.9
Diploma above average	56	14.9
Bachelors degree	61	16.3
Work		
government employee	55	14.7
private sector employee	34	9.1
Literal	86	22.9
does not work	200	53.3
Number of hospital admission		
Once	135	36.0
Twice	119	31.7
Three times	53	14.1
More than three times	68	18.1
X̄±SD	49.2±14.2	

Table 2 illustrates distribution of the studied patients according to their personal characteristics at Benha University Hospital. The study showed that, (17.6% &17.3%) of patients enters medical unit 2 and medical unit 6 respectively. According to their age, more

than quarter of them (26.7%) were less than 40 years old and more than quarter of them (26.4%) were more than 60 years old with a mean age of (49.2±14.2) years. As regarding to their gender, more than half of them (53.1%) were female. In relation to their marital status, about three fifth of them (59.2%) were married. As for as to their educational level , about one third of them(30.4%) were illiterate .According to their work, more than half of them(53.3%) didn`t work. As regarding to number of hospital admission, more than one third of them (36.0%) admitted to hospital for first time.

Table(3):Assignment Procedures as Reported by Staff Nurses(n=116)

Assignment procedures	No	%
Presence of the assignment sheet		
Yes	116	100.0
No	0	0.0
Form of assignment sheet		
Oral	0	0.0
Written	116	100.0
Place of assignment sheet		
Hang on the wall	99	85.3
Given to every staff nurse	17	14.7
Responsible for preparing work assignment sheet		
The nursing supervisor	95	81.9
The head nurse	18	15.5
Assistant of the head nurse	1	.9
Any nurse in the department	2	1.7
The length of the assignment sheet		
Every shift	12	10.3
Daily	36	31.0
Weekly	4	3.4
Monthly	64	55.2
Nurse's opinion was taken before making assignment sheet		
Yes	80	69.0
No	36	31.0

Table 3 shows that the assignment procedures as reported by staff nurses. It can be noticed that all staff nurses reported that assignment sheet was present in written form. The highest percentage (81.9%) of staff nurses reported that assignment sheet was made by nursing supervisor. According to the place of assignment sheet, the majority of staff nurses (94.8%)reported that assignment sheet was posted on the wall. Regarding the length of performing assignment sheet ,more than half of staff nurses (55.2%) reported that assignment sheet was done monthly. According to if the opinion of staff nurses was taken before putting the assignment or not ,more than two thirds of staff nurses(69.0%) reported that their opinion were taken before putting the assignment sheet.
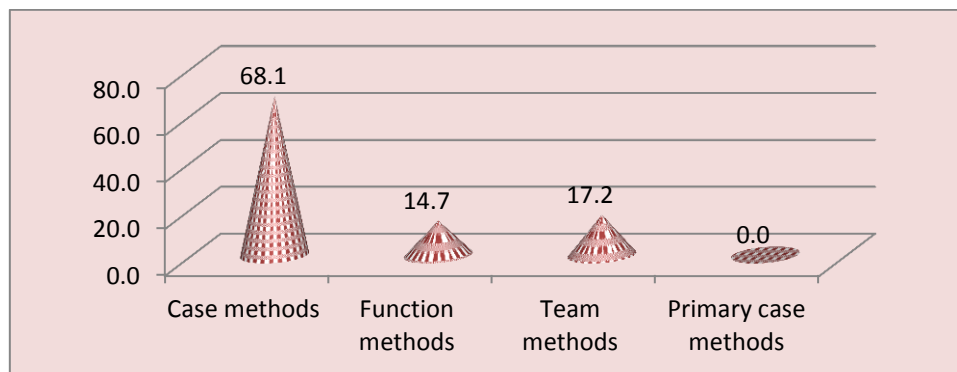

Figure (1): Methods of Nursing Care Delivery System as Reported by Staff Nurses.

Figure 1 demonstrate that ,the most common method of assignment used by the studied nurses was case method, followed by team method ,and function method, otherwise primary case method was not used at all among studied nurses.
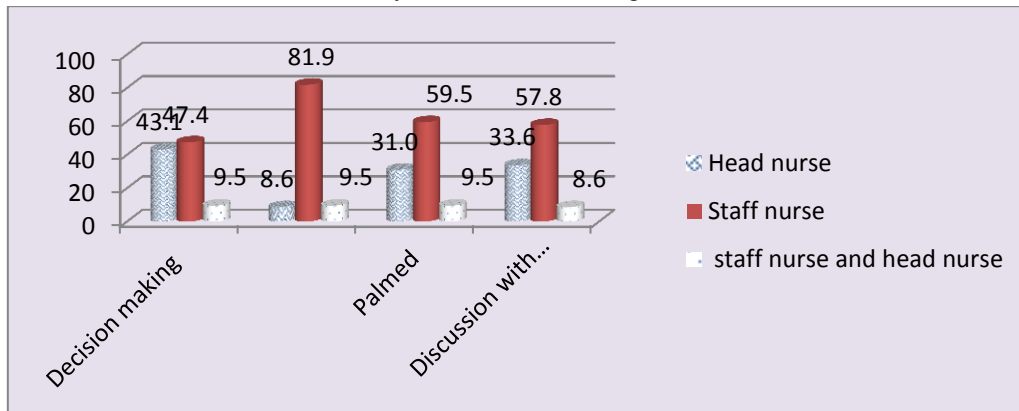

Figure (2): **Activities Related to Patients Care as Reported by Staff Nurses (N=116).**

Figure 2 clarifies the activities related to patients care as reported by staff nurses, the study showed that the responsible for decision making related to patient condition, less than one half of staff nurses(47.4%)reported that nurses were responsible for decision making related to patient condition. According to responsible for writing nursing note, the highest percentage of staff nurses (81.9%) reported that nurses were responsible for writing nursing note. Regarding to patient condition, about three fifth of staff nurses (59.5%) reported that nurses will be palmed in case of error. According to the person responsible for the discussion of patients care with the doctor, less than three fifth of staff nurses (57.8%) reported that nurses were responsible for the discussion of patients care with the doctor.
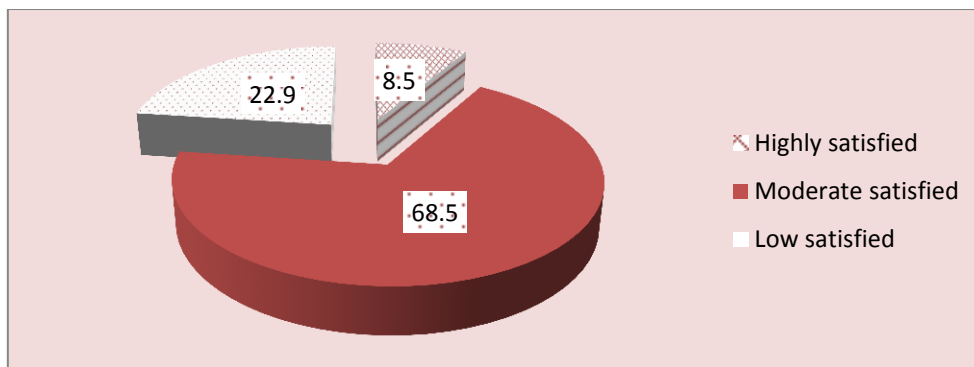

Figure (3): Total Patient Satisfaction Level as Reported by Studied Patients.

Figure 3 showed that (68.5%) more than two third of the patients had moderate satisfaction level and (22.9%) had low satisfaction level. While (8.5%) had highly satisfaction level.

Table (4): Relation between Patient Satisfaction and their Socio-Demographic Characteristics (n=375).

Socio-Demographic Characteristics	Patient Satisfaction			X2	p-value
	Low Satisfied (n =34)	Moderate Satisfied(n=94)	Highly Satisfied (n =247)		

	No	%	No	%	No	%		
Unit								
Medical unit 1	10	29.4	14	14.9	38	15.4		
Medical unit 2	6	17.6	18	19.1	42	17.0		
Medical unit 3	5	14.7	16	17.0	42	17.0	13.11	0.21
Medical unit 4	3	8.8	12	12.8	43	17.4		
Medical unit 5	9	26.5	15	16.0	37	15.0		
Medical unit 6	1	2.9	19	20.2	45	18.2		
Age								
<40	3	8.8	17	18.1	80	32.4		
40-50	5	14.7	26	27.7	52	21.1	23.91	0.001**
50-60	9	26.5	31	33.0	53	21.5		
>60	17	50.0	20	21.3	62	25.1		
Gender								
Male	17	50.0	47	50.0	112	45.3	0.73	0.69
Female	17	50.0	47	50.0	135	54.7		
Marital status								
Single	2	5.9	8	8.5	28	11.3	25	0.000**
Married	27	79.4	70	74.5	125	50.6		
Divorced	0	0.0	7	7.4	29	11.7		
Widowed	5	14.7	9	9.6	65	26.3		

Table (4Continued): Relation between Patient Satisfaction and their Personal Characteristics (N=375).

Socio-Demographic Characteristics	Patient Satisfaction						X2	p-value
	Low Satisfied (n =34)		Moderate Satisfied(n=94)		Highly Satisfied (n =247)			
	No	%	No	%	No	%		
Educational level								
-Illiterate	12	35.3	26	27.7	76	30.8		
-Reads and writes	9	26.5	23	24.5	48	19.4		
-Basic education	3	8.8	9	9.6	26	10.5	22.02	0.01*
-Secondary and equivalent	1	2.9	9	9.6	16	6.5		
-Diploma above average	7	20.6	21	22.3	28	11.3		
-Bachelors degree	2	5.9	6	6.4	53	21.5		
Work								
-Government employee	3	8.8	12	12.8	40	16.2		
-Private sector employee	0	0.0	7	7.4	27	10.9	11.92	0.06
-Literal	14	41.2	23	24.5	49	19.8		
-Does not work	17	50.0	52	55.3	131	53.0		
Number of hospital admission								
Once	12	35.3	46	48.9	77	31.2		
Twice	6	17.6	26	27.7	87	35.2	18.35	0.005*
Three times	4	11.8	9	9.6	40	16.2		

More than three times	12	35.3	13	13.8	43	17.4		

*A statistical significant difference (P ≤ 0.05)   **A highly statistical significant difference (P ≤ 0.001)

Table 4 shows that there was highly statistical significant difference between patients satisfaction level and their age and marital status, there was a statistical significance difference between patients satisfaction level and their educational level and number of hospital admission. While there was no significance difference between patients satisfaction level and their units, gender and work.

Table(5):Relation between Methods of Nursing Care Delivery System and Patients Satisfaction

Nursing care delivery system	Patient satisfaction						X^2	p-value
	Low		Moderate		High			
	no	%	No	%	no	%		
Case methods	10	55.6	25	80.6	44	65.7	16.04	0.003*
Function methods	7	38.9	4	12.9	6	9.0		
Team methods	1	5.6	2	6.5	17	25.4		
Primary methods	0	0.0	0	0.0	0	0.0		

*A statistical significant difference (P ≤ 0.05)   **A highly statistical significant difference (P ≤ 0.001)

Table 5 showed that there was a statistical relation between methods of nursing care delivery system and level of patient's satisfaction.

Discussion

▪ **Personal Characteristics of the Study Sample**.

The results of the present study indicated that the highest percentage of staff nurses had age ranged between 25-30 years old. In relation to marital status, the majority of them were married. As regarding to educational qualification, the highest percentage of them had diploma in nursing. According to their units, (19.0%) of them work in medical unit 5 . As regarding to years of experience, the highest percentage of them had years of experience ranged from15years and more. This finding is consistent with (Li-ming, etal. ,2013) who conducted a study about "Hospital nursing, care quality and patient satisfaction "and reported that the average age of nurses was 29 years and they had been working as nurses for 11years.This finding is agreement with (Abdullah,2014) who conducted a study about "The effect of nursing care delivery system on nurses' job satisfaction" and reported that, the highest percentage of nurses were married and they had been holding nursing diploma.

The results of the present study revealed that the highest percentage of studied patient had age less than 40 years old. In relation to marital status, the majority of studied patients were married. As regarding to educational level, the highest percentage of them were illiterate, in relation to their gender, more than half of them were female. As regarding to number of hospital admission, more than one third of

them admitted to hospital for first time. This finding is consistent with Tashonna,Jeannie ,Mantopoulos Elizabeth, and Jackson(2011):who conducted a study about "A brief questionnaire for assessing patient healthcare experiences in low-income settings " and showed that the mean age of the participants was 37 years. About half of the participants were female and the highest percentage of patients were illiterate. On the other hand, this finding dis-agreed with Vanessa,Villarruz ,Antonio ,Dansand , and Mark(2009) who conducted a study about "measuring satisfaction with nursing care of patients admitted in the medical wards of the Philippine general hospital" and showed that age of studied patients calculated at 50 years ranging from 18 to 93 years old. There was an almost equal distribution between males and females, two thirds of whom were married. A little over half had previous hospitalization.

▪ **Type of Nursing Care Delivery Systems as Reported by Staff Nurses.**

As regarding to the assignment procedures, the findings of the current study revealed that the units perform the assignment procedure and the highest percentage of the studied nurse reported that assignment sheet was done in written form and it had posted on the wall. From the researcher opinion, the effective assignment sheet should be in write form and put in suitable place visible to all staff. These findings were consistent with the American nursing association report (2007) as it reported that characteristics of effective assignment were to be clear, definite, signed, posted in advance. This finding is also congruent with Sjetne and Veenstra(2010) who conducted a study about "classifying nursing organization in wards in Norwegian hospitals "and indicated that nursing assignment sheet made by head nurse in written form and it should be revised daily if necessary to assure continuity of care.

The findings of the present study revealed that the case method was the most frequently used method in medical units. From the researcher opinion, this might be due to number of staff nurses in each unit is suitable to needs of patient from care. In this respect, Barker (2011) who conducted a study about "Perceived level of mental, physical and total fatigue, and also acute and chronic fatigue states, among registered nurses" indicated that the case method was the most frequently used model in medical units. On the other hand, this finding disagree with Hansten and Jackson (2013) who conducted a study about " delivery of nursing care in acute setting ,success in practical /vocational nursing from student to leader" and indicated that in the specialized units(ICU) the highest percentage of head nurse used case method, the reverse was observed in non- specialized units,

the head nurse reported the use of the functional method.

The finding of the present study also revealed that the highest percentage of nurses reported that the nurse is the person who has the responsibility of take patient care decision, writing nursing note, punished in case of errors in patient care and discuss patient care with doctors. From the researcher point of view, this is could be related to the fact that the head nurses were very occupied with secretarial work or administrative duties so they delegate the patient care responsibilities to the staff nurses, the nurses provide direct care and always in contact with them so they must write nursing note as they are aware of patient conditions, they are responsible for discussion with doctors about patient condition and they will be plamed in case of any error. This finding was in agreement with the Occupational employment statistics (2010) who conducted a study about " licensed practical nurse: job description "and reported that when caring for patient, registered nurse establish care plan ,plan may include numerous activities such as administrating medication ,observing the patient and recording those observation and consulting with physicians.

Patients Satisfaction

The finding of this study illustrated that more than two thirds of studied patients had high level of satisfaction. From the researcher opinion, this might be due to the patient treat as a human with respect to their dignity and consider their needs , the nurses reception and administration of physical care to the Patient ,give health education and give them psychological support and keeping privacy effectively. In this respect, Kumar ,Anwarul ,Hassan, and Tehrani (2012) who conducted a study about" high satisfaction rating by users of private-for-profit healthcare providers-evidence from a cross-sectional survey among inpatients of a private tertiary level hospital of north india", it is apparent that the was high level of patient satisfaction from preparation of investigation and administration of medication.

Relation between Study Variable

According to the current study there was highly statistical significant difference between patients satisfaction level and their age and marital status, there was a statistical significance difference between patients satisfaction level and their educational level and number of hospital admission. While there was no significance difference between patients satisfaction level and their units, gender and work.
This results disagreed with Atallah,Al-Sayed,Ayman,Mansour, and Aboshaiqah (2013) who conducted a study about "Patients' satisfaction with the quality of nursing care provided: The Saudi experience" and showed that there were no

significant differences between patients' satisfaction (overall satisfaction) with regard to age, gender and marital status , whereas there was a significant difference in overall patients' satisfaction level related to educational level and number of admissions to hospital .

According to the present study there was a statistical relation between methods of nursing care delivery system and level of patients` satisfaction. From the researcher opinion, this might be due to when there is assignment sheet exist and advertised for all this leads to the organization of work and save time for the benefit of the patient, leading to patient satisfaction. This result disagreed with Ritin et al.,(2015) who conducted a study about "Models of care in nursing: a systematic review "and showed that there was no statistically relation in patient satisfaction between team nursing and primary nursing models and total patient care models .

Conclusion

The present study was conducted to determine the relationship between nursing care delivery system and patient` satisfaction in Benha University hospitals. It is concluded that the majority of staff nurses reported that assignment sheet was made by nursing supervisor in written form, more than two thirds of staff nurses used case method and more than two thirds of patients had a high satisfaction level. Additionally, there was a statistical relation between methods of nursing care delivery system and level of patients` satisfaction.

Recommendations

In the lights of the findings obtained from the present study these points are recommended:

▪ **Nursing level:**

1) Establishing definitions of nursing care delivery system in the hospital, to understand the model of organizing patient care.

2) Providing adequate staff nurse to reduce the work pressure and decrease error during care given.

3) Developing assignment sheet to accommodate the method used.

4) Implementing incentive system for good performance and distributed fairly among hospital staff nurses.

5) Advocating for the patient by ensuring that nurse knowledge and competencies match the patient's identified needs to allow for delivery of safe care.

6) Encouraging utilization of the entire health care team to enhance the efficiency and effectiveness of nursing care delivery.

7) Adopting a practice model that addresses the necessity to match patient needs with nurse competencies.

8) Establishing contingency plans/resources for unexpected periods of increased activity and/or increased acuity.

9) Improving hospital clinical care environments for enhancing patient satisfaction with care.

▪ **Educational level:**

1) Providing education to registered nurses related to patient satisfaction to consider when developing and evaluating staffing plans.

2) Providing educational program for registered nurses on methodologies by which to match nurse competencies to assessed patient needs.

▪ **Research level:**

1) Making study about the effect of nursing care delivery system   on quality of patient care.

2) Repeating the current study on large number of studied (nurses and patients) and being in different health care setting.

3) Studying the organization factors and its relation to patient care delivery system.

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