



“A COMPARATIVE STUDY TO ASSESS THE PERCEPTION OF NURSES REGARDING IMPORTANCE OF NURSE CALL LIGHT SYSTEM VS HOURLY ROUNDING AT SELECTED HOSPITALS OF VIJAYAPUR.”

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ABSTRACT

In this dynamic world it has become challenge for the nurse to keep patient at highest satisfied level in health care settings. This study aims to assess the nurse's perception regarding of nurse call light system vs. hourly rounding for meeting the emergencies of patient in health care settings. We used Comparative survey design with descriptive approach with a sample of 100 staff nurses, were data was collected through 3 point perception point scale. Analyses have done by targeting the objectives and considering the indicators with appropriate test statistics. The result reveals that 50% of the respondents were age of 21-25 , 53% were male and 26.25% were worked in special ward.43.75% perceived that nursing call system is important and 48.75% felt hourly rounding is important in meeting the need of the patient. It conclude that hospital should adopt some measures in meeting the need of the patient

KEYWORDS : Nurse Call Bell/Light System, Hourly Rounds, Patient Emergencies, Patient Safety, and Patient satisfaction

Introduction:

Healthcare is rapidly changing to meet the increasing demands of the population and has become more competitive. Hospital reimbursement is based on patient outcomes i.e. patient satisfaction has emerged as an important measure of patient service quality.¹

In this dynamic world, it is becoming essential for nurses only to take care of patients 24 hours without much help from kith & kin of patients. Nursing needs to focus on Quality care and extend utmost importance to the service of the patients and develop a sense of responsibility and accountability of total nursing with compassionate heart.²

Falls are one type of crisis occurring in clinical setting. Estimation of inpatient falls during hospital stay has been constant over timely ranking from 2.2 to 7/100 patient's day. Among falls about 30% sustain physical injury leading to longer lengths of stay and higher costs of to hospitals.³

However call bells and hourly rounds are only two factors to consider when approaching patient safety. Safety and the issue of falls are multifactor in nature; therefore a safety committee must consider several factors and include many approaches to ensuring patient safety.⁴

The nurse calling system (NCS) is an innovative product to give reliable and efficient nursing management service to the patients with guarantee. Also the wired and wireless models are ease product for installation in the hospital. The system requires minimum or no training to the hospital staff. NCS enables real-time data logging of the patient calls to the nurses. Data analysis software gives detailed report of the services rendered to the patient which is inpatient based.⁶

The identified possible reasons why patients and families use call lights, including (but not limited to): (1) urgent calls, (2) toileting assistance, (3) intravenous problems, (4) pain medication, (5) repositioning and transfer assistance, (6) personal assistance (e.g., for food, water), (7) obtaining information, (8) getting nurses' attention, (9) asking for nursing staff's companionship, and (10) accidentally pushing the call light.⁷

An exploratory and comparative study was conducted on improving call bell response times in Morning times with view of introduction of this facility in suite of interventions aimed at decreasing patient falls. The result reveals that there were more calls in past intervention period and answered more promptly. The rate of fall is decreased from 60 to 54 in post intervention period. And also there was reduction of all with harm from 7 to 3. It concludes that prioritizing call bell response and raising staff awareness improves the response to patient call at this facility.⁷

Call lights are both frustrating and essential features in most hospital units. Although the lights are invaluable for alerting staff to patient

needs, those needs often are not emergencies, and constantly answering the calls can tie up a workday.⁸

A recent study shows that using hourly rounding reduced call light use by 38%, and the nature of those calls were more important to the patient's well-being. The change both freed up time for staff to complete their tasks without constant interruptions and improved patient safety.⁹

Hourly rounding is the process in which every hour a staff member (either a nurse or nursing assistant) enters a patient's room to assess the person's needs. Generally rounding occurs every hour during the day shift and every 2Hrs on the night shift. A nurse and nursing assistant often rotate on odd hourly rounds, they focus their assessment.¹⁰

Hourly rounding is a systematic proactive nurse driven Evidence based intervention to anticipate and address needs in hospitalized patients. According to the evidence 'effectively hourly rounding can promote patient safety, foster team communication and improve staff ability to provide efficient patient care'.¹⁰

During hourly rounds the nurse complete scheduled tasks such as medication administration, dressing changes as well as checks the three P's – potty, position and pain. Safety of patient has become one of the challenges for the health team which requires multifaceted approach. One growing trend is to implement hourly nursing rounds, studies show that hourly nursing rounds not only reassure the patient, but lead to reduce call lights use as well.¹⁰

Descriptive study conducted on hourly rounds, perspectives and perception of the frontline nursing staff's working at acute care unit. A survey was conducted on 52 registered nurses and patient care assistant, their responses was reported and aggregated according to demographic data. Findings revealed 25% of registered nurse felt that sense of ownership of the hourly rounding initiative and only 23% agreed that completion of the hourly rounding. They concluded that nursing leadership and educators insight on hour to lead and sustain a new initiative or evidence based practice. Studies have shown hourly rounding decreases call light usage and unit noise levels, increasing patient satisfaction and reduce falls. Some researchers also report increased staff satisfaction and productivity likely because staff feel they have more control over patient care. Despite these benefits, hourly rounding isn't performed consistently according to results from a survey researchers completed.¹¹

A study was conducted on "Rounding, Challenges with Implementation of an Evidence-Based Process". the study explains that Introduction of an evidence-based practice change, such as hourly rounding, can be difficult in the hospital setting. This study used ethnographic methods to examine problems with the implementation of hourly rounding on 2 similar inpatient units at hospital. Results indicate that careful planning,

communication, implementation, and evaluation are required for successful implementation of a nursing practice change.¹²

Little research has been done on nurse perception on importance of call light use and hourly rounding, which were found to be associated with inpatient falls and satisfaction. Nurses' perspectives may be moderate or mediate the aforementioned relationships. This comparative study intended to understand staff's perspectives about call lights and hourly rounding, and the reasons for and the nature of call light use. It also explored differences among staff nurses working in different hospitals and also identified significant predictors to identify the reasons.

Objectives:

1. To assess the perception of nurses on importance of nurse call light system as measured by three point rating scale.
2. To assess the perception of nurses on importance of hourly rounding as measured by three point rating scale
3. To compare the importance of nurse call light system Vs hourly rounding.
4. To determine the association of perception on nurse call light system among nurses with their selected personal variables
5. To determine the association of perception on hourly rounding among nurses with their selected personal variables

Assumption

The study assumes that

- Nurses may have perception that nurse call light system is important at their work place.
- Nurses may have perception that hourly rounding is important at their work place.

Hypotheses

- H₁:** There is significant comparison exists between the perception of nurses on importance of nurse call light system and hourly rounding.
- H₀₂:** There is no significant association between perceptions of nurses on nurse call light system with their selected personal variables.
- H₀₃:** There is no significant association between perceptions of nurses on hourly rounding with their selected personal variables.

Sources of Data Collection.

The data will be collected from staff nurses working at selected hospitals Bijapur.

RESEARCH DESIGN AND APPROACH

Comparative survey design with descriptive approach.

SETTING OF THE STUDY.

The study will be carried out at selected hospitals Bijapur.

POPULATION

The population of the study comprises of staff nurses at selected hospitals Bijapur.

Variables of the study are:

- Study variables: perception of nurses on importance of nurse call light system and hourly rounding.
- Other variables: Age, gender, education, year of experience, area of work etc.

Sampling Technique and size

- Non probability convenient sampling technique consists of 100 staff nurse.

SAMPLING CRITERIA

Inclusion criteria

- Those who are willing to participate.
- Those who are available during data collection time.

Exclusion Criteria

- Those who are not willing to participate in the study.
- Those who are working as ANM, on part time.

INSTRUMENTS USED -for study is

- Demographic profile data
- 3-point perception scale on importance of nurse call light system
- 3-point perception scale on importance of hourly rounding.

Data collection method

- Permission will be obtained from the concerned authority
- Purpose of conducting the study will be explained to subject
- Informed consult will be obtained from subject
- Data will be collected by using the instruments development

Duration of study:

- 6-12 weeks.

Plan for Data Analysis

Mean median, standard deviation and range to be calculated for deriving the personal variables and the perception of nurses on importance of nurse call light system and hourly rounding.

Chi-square to analyze the association of perception of nurses on importance of nurse call light system and hourly rounding

Results:

- Table 1 Distribution of respondents according to demographic variables

Characterises	Frequency	Percentage	
Age	21-25	40	50
	26-30	34	42.5
	31-35	6	7.5
	Total	80	100
Sex	Male	53	66.25
	Female	27	33.75
	Total	80	100
Educational qualification	GNM	56	70
	BSC	9	11.25
	PBBSC	15	18.75
	Total	80	100
Designation	Staff nurse	57	71.25
	Ward in charge	08	10
	Floor supervisor	15	18.75
	Total	80	100
Nature of Shift	General shift	31	38.75
	Day shift	23	28.75
	Evening shift	08	10
	Night shift	18	22.5
	Total	80	100
Total years of experience	1 yr	21	26.25
	1.1-2 yr	20	25
	2.1-3yr	12	15
	< 3.1yr	27	33.75
	Total	80	100
Area of working	Medical ward	20	25
	Surgical ward	12	15
	ICU	16	20
	CCU	07	8.75
	Special ward	21	26.25
	Post operative ward	3	3.75
	Total	80	100
Total of interaction	< 1 hour	48	60
	< 1hr up to 2 hr	32	40
	Total	80	100

Table 1 explains that majority [50%] of the respondents belongs to age group between 21-25 yrs, [53%] of the respondents were male, 70% completed GNM nursing, 71.25 % of respondents work as staff nurse,38.75% of respondents' works in day shift, 33.75 % of respondents had > 3.1 year, almost 26.25% of respondents are working in special ward, 67.5% of respondents had less than one year of experience in present area and that almost 60% of respondents had less than one hour of interaction.

Table 2. Perception of nurse call system

Characteristics	Scoring	Number	Percentage
Never	1-13	35	43.75
Sometimes	14-27	33	41.25
Always	28- 40	12	15
Total	40	80	100

The above table 2 reveals, majority 43.75% o respondents never felt that call light is important, followed by 41.25% sometimes and 15% always felt is important.

Table 3.Perception of hourly rounds

Characteristics	Scoring	Number	Percentage
Never	1-13	26	32.5
Sometimes	14-27	39	48.75
Always	28-40	15	18.75
Total	40	80	100

The above table 3 reveals that 48.75% of respondents felt that hourly rounds are sometimes important followed 32.5% felt never important and 18.75% felt that hourly rounds are important.

Table 4. Comparison between nurse call system and hourly rounds.

Characters	Mean	SD	Difference
Nurse Call system	16.8	7.02	0.37
Hourly rounds	18.3	6.65	

The above table 4 shows that, the respondents felt nurse call system is important than hourly rounds with slight deference of 0.37.

Table 5. Associations between demographic variables and nurse call system

Variable	Never	Some times	Always	Total	Df	X2	Value at 0.05	Inference
Age								
21-25	16	16	8	40	4	4.58	9.49	NS
26-30	17	15	2	34				
31-35	2	2	2	6				
Total	35	33	12	80				
Sex								
Male	20	25	8	53	2	0.36	5.99	NS
Female	15	8	4	27				
Total	35	33	12	80				
Educational qualification								
GNM	25	24	7	56	4	3.1	9.49	NS
BSC	4	3	2	9				
PBBSC	6	6	3	15				
Total	35	33	12	80				
Designation								
Staff nurse	27	26	4	57	4	16.69	9.49	S
Ward in charge	2	5	1	8				
Floor supervisor	6	2	7	15				
Total	35	33	12	80				
Nature of Shift								
General shift	9	7	2	18	2	4.6	5.99	NS
Day shift	13	15	3	31				
Evening shift	9	9	5	23				
Night shift	4	2	2	8				
Total	35	33	12	80				
Total years of experience								
1 yr	4	14	3	21	4	4.87	9.49	NS
1.1-2 yr	15	2	3	20				
2.1-3yr	5	5	2	12				
< 3.1yr	11	12	4	27				
Total	35	33	12	80				

The above table 5 shows that, the association between nurse call system and the demographic variables only the designation of the staff nurse found to be significant.

Table 6. Associations between demographic variables and hourly rounds

Variable	Never	Some times	Always	Total	Df	X2	Value at 0.05	Inference
Age								
21-25	10	23	7	40	2	2.68	5.99	NS
26-30	14	14	6	34				
31-35	2	2	2	6				
Total	26	39	15	80				
Sex								
Male	18	26	9	53	2	0.36	5.99	NS
Female	8	13	6	27				
Total	26	39	15	80				
Educational qualification								
GNM	19	31	6	56	2	8.27	5.99	S
SC								
PBBSC	5	6	4	15				
Total	26	39	15	80				
Designation								
Staff nurse	22	30	5	57	2	13.1	5.99	S
Ward in charge	2	2	4	4				
Floor supervisor	2	7	6	15				
Total	26	39	15	80				
Nature of Shift								
General shift	3	10	15	18	2	4.6	5.99	NS
Day shift	11	15	5	31				
Evening shift	10	10	3	23				
Night shift	2	4	2	8				
Total	28	39	15	80				
Total years of experience								
1 yr	5	11	5	21	4	4.87	9.49	NS
1.1-2 yr	9	6	5	20				
2.1-3yr	4	6	2	12				
< 3.1yr	8	16	3	27				

The above table 6 shows that the association of hourly rounds with that of demographic variables, the characteristics like qualification and designation found to be significant.

Discussion:

The result obtained indicates the importance of nurse call light system was more feasible than hourly rounds and this is discussed as follows:

In hospitalized patients, the use of call lights is often related to the need for assistance with basic self-care tasks, such as toileting, ambulating, and eating. Therefore, a patient's level of satisfaction with nursing care may depend principally upon the patient's perception of how well the nursing staffs have been able to meet his or her needs.¹¹

The hourly rounding by nursing personnel positively impacts the three variables studied, patient fall rates, call light usage, and patient satisfaction. This has the ability to impact call light usage, and perhaps would have showed significance.

A cross sectional study was conducted on patient call light use and staff response which were found to be associated with inpatient falls and satisfaction. The results reveals that 49% of staff perceived that patient initiated call is related to patient safety, 77% agreed as meaningful and 52% thought it is for staff attention.⁹

It was assumed that if answering call lights was prioritized higher among nursing tasks, a staff member would perceive call lights as being important to patient safety, requiring nursing staff's attention, and meaningful. If so, the action of answering call lights should not be perceived as preventing staff members from doing the critical aspects of their role.⁵

While the concept of hourly rounding is not new, it is undergoing resurgence in hospitals throughout the United States (US). During the mid twentieth century, it was common practice for nurses to round on their patients. As staffing shortages increased, rounding occurred less frequently practiced.⁴

The study involving 63 units from 22 hospitals on patient safety in regards to hourly rounding and call light usage. The results explains that when patient know that nurse will be checking on them routinely every hour they are less likely to call for non urgent matter. However call light and hourly round are only the factors to consider when approaching patient safety. Therefore a safety committee must consider several factors and includes many approaches to ensuring patient safety.¹¹

Staffing was limited to 80 during the study. These staff members were not trained on how to follow the rounding protocol and why rounding is important. Therefore, many of these staff members did not perform rounding. Hourly rounding is effective when the patient trusts that a staff member will return. Patients who do not trust that this will happen were more apt to use the call light. With a large number of nurses floated from other units, the trust was not established. Floating of nurse to a rounding unit should be limited as much as possible or all staff in the hospital should be educated in the hourly rounding protocol.⁴

Despite the strong agreement that hourly rounding holds value for patients and staff and decreases nurses workload, only few nurses agreed that hourly rounding was performed consistently.

LIMITATION:

- This study is limited to staff nurses only.
- The sample size is 100 where generalization is not possible.
- The same study can be replicated on larger scale, with large sample.
- Experimental study can be carried out.
- Development and effectiveness of protocol for hourly rounding can be done.

Conclusion:

Now the contemporary health service environment is under pressure and subject to calls for innovation to improve operational efficiency and quality and safety of patient care. The ongoing shortage of registered nurses delivering skilled care at the bedside is a significant factor in this context. However, it is only very recently that innovations in models of nursing care delivery have started to receive research attention.

Patients' care is undoubtedly the main aim of all hospitals and Nursing Homes. Hence there is a need to provide one dedicated line of communication to every patient so that the patient can draw attention of a nurse from his bed whenever required. The resources that patients look for are good doctors, good medical equipments and timely care. Hence it is very much essential to have pool proof system by means of which patient can communicate with nurses/doctors to seek their help.

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References

1. Gulf Breeze, FL, USA. Effects of nursing rounds: On patients' call light use, satisfaction, and safety, *The American Journal of Nursing* (Impact Factor: 1.3). 10/2006; 106(9):58-70; quiz 70-1.
2. www.strategiesforursemanagers.com/ce_detail/75250.cfm.
3. Leslie L.etal; Hourly rounding benefits patients and staff December 2010 Vol. 5 No. 12.
4. CLINICAL ROUNDS: Hourly rounds keep call lights quiet, *Volume 36 Number 2, Nursing2014*, Pages 33 – 33.
5. https://en.wikipedia.org/wiki/Nurse_call_button.
6. JANET L. LARSON, FAANHUEY-MING TZENG Exploring the Relationship Between Patient Call-Light Use Rate and Nurse Call-Light Response Time in Acute Care Settings *Volume 29 Number 3, March 2011*, 138 – 143
7. https://en.wikipedia.org/wiki/Bathroom_emergency_pullstring.

8. Cameron ID etal; Interventions for preventing falls in older people in nursing care facilities and hospitals, *Cochrane Database Syst Rev*. 2010 Jan 20;(1):CD005465.
9. Tzeng HM, Yin CY, Are call light use and response time correlated with inpatient falls and inpatient dissatisfaction?, *J Nurs Care Qual*. 2010 Jul-Sep;25(3):260.
10. Tzeng HM, Larson JL, Exploring the relationship between patient call-light use rate and nurse call-light response time in acute care settings, *Comput Inform Nurs*. 2011 Mar;29(3):138-43
11. <http://bestwritingservice.co.uk/.../Nursing/Call-Lights-in-a-Nursing-Setting.htm>.
12. www.medscape.org/viewprogram/8786Feb 18, 2008 - Ring for the Nurse! Improving Call Light Management:
13. www.americannursetoday.com/.../8e5aeea0cfc14a8995de230b53b415ac...BestPracticesforFallsReduction:APracticalGuideMarch2011.
14. uey-Ming Tzeng, Perspectives of staff nurses of the reasons for and the nature of patient-initiated call lights: an exploratory survey study in four USA hospitals, *BMC Health Services Research* BMC series, BioMed Central Ltd. 2010.
15. Nurse Call Evolution "Call Bells to Hand Held" www.gashe.org/pdfs/2013pres_JeronNurseCall.pdf