The nursing rounds system: Effect of patient’s call light use, bed sores, fall and satisfaction level

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The nursing round system (NRS) means checking patients on an hourly basis during the A (0700–2200 h) shift and once every 2 h during the B (2200–0700 h) by the assigned nursing staff. The overall goal of this prospective study is to implement an NRS in a major rehabilitation centre—Sultan Bin Abdulaziz Humanitarian City—in the Riyadh area of the Kingdom of Saudi Arabia. The purposes of this study are to measure the effect of the NRS on: (i) the use of patient call light; (ii) the number of incidences of patients’ fall; (iii) the number of incidences of hospital-acquired bed sores; and (iv) the level of patients’ satisfaction. All patients hospitalized in the male stroke unit will be involved in this study. For the period of 8 weeks (17 December 2009–17 February 2010) All Nursing staff on the unit will record each call light and the patient’s need. Implementation of the NRS would start on 18 February 2010 and last for 8 weeks, until 18 April 2010. Data collected throughout this period will be compared with data collected during the 8 weeks period immediately preceding the implementation of the NRS (17 December 2009–17 February 2010) in order to measure the impact of the call light use. The following information were collected on all subjects involved in the study: (i) the Demographic Information Form; (ii) authors’ developed NRS Audit Form; (iii) Patient Call Light Audit Form; (iv) Patient Fall Audit Record; (v) Hospital-Acquired Bed Sores Audit Form; and (vi) hospital developed Patient Satisfaction Records. The findings suggested that a significant reduction on the use of call bell ($P < 0.001$), a significant reduction of fall incidence ($P < 0.01$) while pressure ulcer reduced by 50% before and after the implementation of NRS. Also, the implementation of NRS increased patient satisfaction by 7/5 ($P < 0.05$).
Key words: call light, patient-care management, patient safety, patient satisfaction, rounds.

LITERATURE REVIEW

The call light can be lifeline for hospitalized patients but it can also impose considerable demands on nurses’ time. Several studies have documented the unfavourable effects of frequent use of the call light on the effectiveness of patient-care management on inpatient units, which might already be compromised by staffing shortage and burnout and job dissatisfactions among nurses. The empirical literature on call light use and on systematic approaches to conducting bedside rounds.1

Research has shown that patients use call lights largely for problems that do not require responses from Staff and that can be appropriately handled by a nursing aid. Van Handel and Krug categorized and quantified patients’ reasons for using the call light and found that most use occurred at meal and medication times, when staff was busiest.2 This led to two interventions to reduce patient call light use: the addition of non-nurse staff position (a nursing assistant) and the implementation of ‘reactive-proactive’ procedures (such as, when responding to a call light, asking the patients and his roommates whether they need additional assistance). The initiation of ‘patients comfort rounds’ every 2 h to assess the adequacy of pain control, to observe patient general condition (including cleanliness and need to use the toilet), and to meet any other non-medical needs. In summary, rigorous assessment of patient-care management system is needed to determine the best way to reduce call light use and burnout and fatigue among hospital personnel, as well as increase patient satisfaction and safety. The use of interdisciplinary rounding teams with certain types of patients and hospital unit has resulted in reduced incidence of pressure ulcers among patient in the surgical intensive care unit and among patient who stay in the intensive care unit for > 72 h. Researcher have reported mix results on the questions of whether daily interdisciplinary rounding increase operational efficiency cross patients and unit types as measured by length of stay, but there is evidence for increase staff satisfaction. Finally, Sterman and colleagues found more effective pain management and improve patient satisfaction among patients with cancer when nurses engage in specific actions, such as making semiweekly pain management rounds, educating patient in pain management and recommending changes in pain management approaches to physicians.3 Interdisciplinary rounding can, therefore, positively affects patient care and operational efficiency. However, according to Meade,4 ‘an important, still unanswered question is this: Can a systematic nursing-only (rather than interdisciplinary) rounding protocol that anticipates patients’ need result in better patient-care management?’

A patient perception of the quality of nursing care largely depends on the nurse’s ability to meet the patient’s needs. Hospitalized patients often requires assistance with basic self-care tasks, such as using the toilet, ambulating and eating, and usually communicate their needs by using the call light. Therefore, a patient’s level of satisfactions with nursing care depends principally upon the patient’s perception of how will the nursing staff has been able to meet his or her needs.

Research attempting to measure patient satisfaction by measuring perceptions of the quality of nursing care has assessed both ‘humanistic’ and more ‘concrete’ behaviour. Several studies have evaluated patient perceptions of nursing care that are very important to patient smile, humour, reassurance, kindness, compassion, gentle touch and a nurse’s ability to anticipate the patients needs. These elements of care largely determine whether a patient will be satisfied with a care given. Not surprisingly, these studies also emphasized the importance of nurse’s physical presence to a patient’s perception of nursing care. Moreover, research and training programs discuss how patients’ perceptions of the quality of nursing care are influenced not only by nurses’ physical presence but by the quality of attentiveness or emotional awareness that they bring to the encounter—an essential feature of care. The nurse has to demonstrate her availability in a manner that the patient finds meaningful or comforting. According to Comley,5 ‘Another importance of patients’ perceptions of nursing care quality related to more concrete nursing actions, such as correct and prompt attention to physical needs, timely administration of medication, and pain assessment’.

In summary, a patient perception of the quality of nursing care largely depends on the nurse’s ability in
meeting the patients’ needs as well as fostering a relationship with the patient. The premise of the current study is that patients would perceive that proactive nurses who provide consistent care will meet their physical and emotional needs. Specially, when nursing rounds on stroke unit, conducted on a regular schedule by nursing staff that perform a specific set of actions, would; reduce call light use, increase patient satisfaction, improve patient safety as measured by the frequency of patient falls and finally decrease patient bed sores.

**STUDY PURPOSE AND INSTRUMENT**

Stroke unit consists of 26 beds. Hundred and four patients from the stroke unit have participated in this study for the period of 2 months. The main study instrument in this research was the patient’s call light survey along with the patient’s demographic data. The patient call light survey has included the following information: the reason behind the call light as perceived by the staff members, diagnosis, surgeries, reason behind hospitalization, length of stay in the unit, how many call light does the same patient uses per hour? Were there any impediments that caused a delay by the staff to respond promptly to the call light? How long did it take to answer a call light during the day and night shifts? How did a staff member perceive the nature of call lights? What were the significant predictors for staff’s perspectives about the nature of call lights? Another critical factor in the survey was the timing of patient’s use of call light relative to the nursing round in the ward.

**METHOD**

In the 8 week study, the data collection and analysis was primarily concerned with coming up with figures that reflect the status quo on the hospital. An 8 week study on the male stroke unit was performed using a quasi-experimental non-equivalent groups design; baseline data were taken during the first 2 weeks. The data were repeated over and over again during the period of study to ensure accuracy. Data were gathered by the nurses in the stroke unit and the frequency of the call lights was entered. In the first 4 weeks, data were gathered about patient’s satisfaction without the hourly or every 2 h NRS; in the second 4 weeks, the call lights were called while the NRSs were in force. Data were gathered on patients demographic characteristics, the reasons given by participants for using the call light, and the ability of patients to assess the situation well before using the call lights based on how often the NRS takes place were analysed using t-tests.

It is important to note that approximately the stroke unit had an existing internal checks and balances to verify the accuracy of the call lights records, including Hill-Rom electric call light recording systems and nursing desk staff whose primary job was to receive all the call light requests from patients and ask nurses to the room. That has contributed to the high reliability of the data collection phase.

**RESULTS**

**Call bells**

During the study period, after hourly rounding by nurses the overall monthly average of call bells were reduced for different reasons and became (Mean ± SD) 29.3 ± 7.4 vs. 98.8 ± 21.2 before hourly rounding (Z-value = 24.5, P < 0.001). However, no difference of call bells was found due to I.V Problem and pump alert reasons before and after
hourly rounding, that is, 0.5 ± 1.9 vs. 0.4 ± 0.73 (Z-value = 0.71, \( P = 0.47 \)). Table 1

### Fall incidence, pressure ulcers & patient satisfaction

On the other hand, fall incidence was reduced drastically after rounding, that is, 25 vs. 4 (\( X = 15.2, \ P < 0.01 \)), although pressure ulcers reduced from two to one incidence, that is, 50% decline, hitherto, patient satisfaction was increased only by 7.5% (\( P > 0.05 \)).

### DISCUSSION

This study has aimed at testing the hypotheses that a rounding intervention could reduce hospital patients’ use of the call light (particularly for minor patients needs), increase patient satisfaction and reduce the rate of patient falls. The data analysis has indeed supported the hypothesis. Patient falls were significantly reduced only during the 1 h experimental rounding. While the number of falls did decline in the 2 h rounding group (night time), nursing staff in the unit expressed concerns about whether they would have the time to perform the rounding as well as their normally scheduled tasks. Looking at the graphical data and the table data above leaves a clear impression that the study has supported the NRS’s decline of call light, patient falls and sores and increasing patient satisfaction.

Taken together, these analyses suggest that 1 h rounding positively affects patient and nursing welfare. Considering the nursing shortage, issues of fatigue and burnout, and the growing health-care demands of the baby boom generation, nursing units could greatly benefit by using a 1 h rounding protocol to achieve greater efficiency. This could translate into greater work satisfaction and, possibly reductions in fatigue and burnout, as well as patients who are more satisfied.

### Action to be taken by nursing staff members during rounding

All nursing staff member in the stroke unit receive the following instruction regarding actions to be performed for each patient during 1 h and 2 h rounding. The following items will be checked and performed for each patient upon entering the room; the patient should know that you are there to do the rounds.

1. Bathroom bed pan assistance, change diaper
2. I.V problem, pump alert
3. Medication
4. Need Nurse or nurse aid assistance
5. Repositioning, mobility assistance and transfer assistance
6. Accidental call
7. Miscellaneous
8. Prior to leaving the room, ask, 'Is there anything I can do for you before I leave? I have time while I am here in the room'.
9. Tell the patient that a member of the nursing staff (use name on the white board) will be back in the room in 1 h (or 2 h if night time) to round again.

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Methods to be taken by the nursing staff during rounding

To test the hypotheses, we independent study were we find out problems of nursing round, to build strategies to develop nursing rounds or to study nursing satisfaction with developed nursing rounds at male stroke unit. In this case, director of nursing services, associate director and charge nurse of the stroke unit were agreed for ‘1 h rounding’ and ‘2 h rounding’. (One-hour rounding was defined as round being performed once 1 h between 6 am and 10 pm and once every 2 h between 10 pm and 6 am).

There were two conditions for the study, baseline measurement that lasted for 8 weeks either where the nursing staff will record all the patient call light and the reasons (17 December 2009–17 February 2010). The measurement of the call light use was divided into 8 week time periods so that the interventions (1 h and 2 h rounding) could be compared with the baseline. Therefore, the study lasted 16 consecutive weeks. Final data from unit were collected by 19 April 2010.

Observation made in the first 8 weeks served as a baseline measurement of call light use. A list of nine reasons for call lights was devised based on our review of the literature (e.g. Van Handel and Krug2) as well as our clinical experience. The rounding conditions were implemented over the next 8 weeks. All members of the nursing staff, including registered nurses (RNs), nursing aids, patient movement technicians, were required to perform specific actions during every patient interaction in both the one-order 2 h rounding conditions. As is consistent with standard hospital practice, patients were not awakened if they were sleeping, during either day or evening hours, unless it was necessary for treatment.

All nursing staff in the unit implemented the rounding schedule that would best fit its staffing patterns and patient needs. However, nursing aids, patient movement technicians, were required to perform specific actions during every patient interaction in both the one-order 2 h rounding conditions. As is consistent with standard hospital practice, patients were not awakened if they were sleeping, during either day or evening hours, unless it was necessary for treatment.

Future direction and conclusion

First and foremost, we hope other researchers will attempt to replicate these results, preferably in Saudi Arabia, so that more rigorous assessment of the long-term effects of these protocols can be made. This would permit more analyses of any enduring effects of rounding on call light use, patient satisfaction and patient safety. Data collection should extend to hospital-acquired decubitus ulcers, particularly among the elderly and those with conditions that require longer hospitalizations. Second, more systematic assessment of both patients’ and staff members’ satisfaction should be made, to determine the best ways to improve the intervention for both groups. Third, it would be also beneficial for hospital administrators, nursing administration and staff members to track more closely how well the reduced call light use enables nursing staff members other than RNs can conduct nursing rounds are questions deserving of further study.

Our findings provide evidence that improved patient-care management and patient satisfaction and safety are achievable with interventions that nurses can initiate and carry out. We hope that hospitals will embrace the approach outlined here to determine whether similar operational changes to rounding protocol would be as beneficial to them as it was to the hospitals that participated in this study.

REFERENCES