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## RESEARCH ARTICLE

### Proactive Patient Rounding Impacts on Patient Satisfaction in UAE

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#### Abstract:

##### Background:

The patient experience is an essential dimension of patient satisfaction. An interesting initiative that has been reported internationally is the Proactive Patient Rounding intervention (PPR), a process of proactive, purposeful, directed communication and evaluation of patient needs. It entails visiting and monitoring patients at an interval of one to two hours. PPR implementation has not been evaluated in the UAE, or in the GCC countries.

##### Objective:

This study aimed to assess the effect of PPR implementation on patient satisfaction levels.

##### Methods:

Post-test quasi-experimental non-equivalent design was used to conduct this study, with a convenience sample of 60 participants from surgical units (comprising 30 control and 30 experimental subjects). The participants were requested to fill out the survey on the 3<sup>rd</sup> day of admission

##### Results:

The study revealed positive increases in patient satisfaction scores. as the experimental group scores were slightly higher than the control group for most of the satisfaction statements and for the overall satisfaction score (experimental  $m = 4.6$ , control  $m = 4.41$ ). However, the independent t-test indicated that this difference was not statistically significant (sig. 0.161).

This study is useful in directing attention to the influence of PPR on several aspects like patient satisfaction, reduce pressure ulcers, and decrease call light.

##### Conclusion:

PPR interventions are a practical approach for addressing the needs of hospitalized patients, and nurse managers should monitor its implementation to get purposeful patients feedback.

**Keywords:** Proactive patient rounding, Patient satisfaction, Surgical units, United Arab Emirates, Survey, PPR implementation.

#### Article History

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## 1. INTRODUCTION

Over recent decades there has been a fundamental shift in healthcare toward a more client-centered approach, addressing broad aspects of the satisfaction of service users. There has been a shift in quality definitions to focus on providing safe, effective, people-centered, timely, equitable, integrated, and efficient care. The patient experience is now considered essential to achieve quality objectives, and patient satisfaction

measurement is emerging as the best approach to examine the quality of healthcare services from patients' perspectives. Multiple initiatives have been implemented locally and internationally to improve the quality of healthcare, and patients experience and increase patient satisfaction [1] On the international level, the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey is a significant assessment tool used worldwide to measure patient satisfaction. It focuses on aspects of care that include communication with nurses and physicians regarding medications, the attentiveness of hospital staff, the cleanliness

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and tranquility of the hospital environment, discharge information, and the overall hospital rating. Locally, in the emirate of Abu Dhabi, the Muashir Healthcare quality index has been implemented to measure healthcare institutions' performance for financing purposes.

The UAE is striving to be a world leader in providing comprehensive services to its population, including healthcare. The Ministry of Health and Prevention has launched the Happiness Indicator, a program that encourages the delivery of high-quality healthcare services that meet the needs and feedback of patients. Its ultimate goal is to surpass (and not merely meet) the needs and expectations of service users. Leveraging the Happiness Indicator, the UAE sets a high standard for healthcare service providers in the region, challenging them to strive for excellence. An interesting initiative that has been reported internationally is the Proactive Patient Rounding (PPR) intervention. PPR is a process of proactive, purposeful, directed communication and evaluation of patient needs. It entails visiting and monitoring patients at an interval of one to two hours [2, 3].

In PPR, the nurse anticipates the patient's needs through their two hourly checks, instead of passively waiting for patients to alert staff to their needs. The concepts of "proactive" make PPR a well-structured process with specific objectives and differentiate PPR from the "routine nursing rounds" [4]. It can give a positive perception to the patient about the hospital's responsiveness to their care, concerns, and complaints, and the active interest of healthcare professionals in their comfort and wellbeing. PPR by nursing staff helps to proactively manage patient needs and minimize the number of unscheduled calls from patients [5]. This is conducive to strengthening bonds and respect between patients and nurses, thus creating an effective interpersonal relationship [2]. Furthermore, proactive rounds can structure the nursing process by actively engaging nurses with patients and their families. The PPR process is usually structured through the use of a checklist, which often includes interventions with patient-based priorities, included and added based on the situation and policy of each hospital [3].

PPR is designed to anticipate and meet basic patient needs while minimizing unfavorable nursing-related outcomes. In order to build trust and therapeutic relationships between patients, families, and nurses and to establish a safer atmosphere that can reduce hospitalization-related anxiety and increase patient satisfaction and enhance open communication [6]. PPR can improve the patient experience and patient safety. A patient experience survey by Press Ganey reported that PPR can increase HCAHPS scores by up to 15%, and leadership rounds can increase scores by 30% [7].

In general terms, significant evidence relates the implementation of PPR with improved clinical outcomes for patients, in addition to their satisfaction ratings. These innovative interventions also contribute to better safety for patients and lower the cost of the service by decreasing adverse events or complications [8, 9]. PPR can be especially useful in high-risk patients, such as those with a high risk of falls [10]. Many failures and adverse events in hospitals are caused by preventable patient outcomes, including hospital-acquired

conditions such as the acquisition of a new disease, an infection, a skin breakdown, or falls that occur during hospitalization [11, 12]. These adverse patient outcomes reflect poor healthcare quality and can be prevented or decreased through the introduction of PPR. "Rounding" has become an essential component of many organizations' fall awareness programs, and studies in diverse contexts worldwide have reported that they lead to a reduction in patient falls, usage of call bells/lights by patients, and hospital-acquired conditions (including skin breakdowns and pressure ulcers), while being associated with a commensurate increase in patient satisfaction ratings [8, 13, 14].

Regardless of the ever-growing body of literature that supports PPR, its implementation has not been evaluated in the UAE, or in the regional contexts of the Gulf Cooperation Council (GCC) counties and Arab countries in general (*i.e.*, healthcare contexts culturally and linguistically analogous to the UAE, and even systems with very similar the relatively similar healthcare systems and contexts). This study examines the effect of using the strategy of proactive rounding and assesses its effects on patient satisfaction in the UAE context, thus offering a pioneering insight into this GCC milieu. If validated, then this strategy can contribute to the national goals and agenda to improve patient's care and their experiences in the healthcare system and offer insights for evidence-based practice in similar healthcare contexts in the GCC and beyond.

## 2. MATERIALS AND METHODS

### 2.1. Study Design

This quantitative research approach utilizes a quasi-experimental post-test design in two sequential phases: (1) Phase 1 (three weeks), in which traditional nursing care was implemented. In this phase, all patients who met inclusion criteria and were willing to participate were included and their satisfaction was measured [2]. Phase 2 (the subsequent following three weeks), in which PPR was implemented for all participating patients who are different from the phase 1 patients. The study was done sequentially rather than concurrently (with a group receiving traditional care first and then another different one receiving the new care) due to ethical concerns; it was considered unfair to offer some patients a potentially better model of care while others in the same ward or room would not be offered the same at the same time. We selected the use of a quasi-experimental design because, as indicated by the literature, this is the second-best design after the randomized controlled trial to achieve unbiased estimation [15].

### 2.2. Study Population and Setting

The study was conducted in surgical units in a large governmental hospital in the northern area of UAE. The hospital was selected since it is a tertiary hospital, and the largest and most advanced medical complex operated by the Ministry of Health. The hospital has a total capacity of 233 beds. Eligible participants included all patients admitted to the surgical units of the participating hospital for a minimum of three days.

### 2.3. Sampling Method

Convenience sampling was used, whereby all patients in the ward were approached by the researcher to obtain their consent for participation in the study. The sample included patients aged from 18-55 years old, who were able to read and write in English or Arabic, and who were scheduled to have three days' minimum projected stay in the hospital in the surgical units. Patients with a score of 3 or more in the electronic health system (which denotes a possibly complex illness state) and patients with possible psychiatric problems (as determined in their medical history recorded in their electronic files) were excluded from the study.

### 2.4. Instrumentation

The researcher developed a patient satisfaction survey for the purpose of this study, to ascertain participants' satisfaction with the nursing care they received, which was completed after the implementation of the intervention. Patients ranked their satisfaction using a five-point Likert scale, with responses ranging from 1 = 'Strongly Disagree' to 5 = 'Strongly Agree'. Higher scores indicated higher patient satisfaction behavior, and lower scores indicated lower patient satisfaction.

The survey was developed mindful of the rationale that it had to be relevant to the healthcare and sociocultural context of service users in the UAE healthcare system; this milieu has its own context and characteristics that affect the care and the patient's satisfaction. Also, the developed survey was designed to cover all the 6 Ps included in the PPR round checklist: Pain (patient pain score), Potty (toileting needs), Positioning (need for repositioning), Proximity (of patients' possessions), Pump (checking electrical pumps, infusion rates, volume infused, and IV cannula site), and before leaving the room (asking if the patient if any additional services are required). While internationally developed surveys did not cover the developed PPR process [16]. The survey used in this study was developed in line with these international surveys, with modifications to fit the UAE context.

The survey was written in English initially and was then translated into Arabic. The translation was revised by two bilingual academics and translation professionals, who undertook a back-translation, and the resultant texts were revised by another bilingual translator to assure that the translated words retained the same meanings, and it was sufficiently similar to the initial copy.

### 2.5. The Intervention

Proactive rounding requires staff nurses to make hourly checks of patients in surgical units, to make sure that each patient receives required care specific to their personal needs, including in terms of pain management, position/comfort, environment, and general person-centered care. Documentation of rounding is required on a rounding log. The only exception to the hourly rounding occurs during the night shift (*i.e.*, from 11 p.m. to 7 a.m.), in order to allow the patients to rest at night. Satisfaction scores of patients admitted to the surgical unit were measured on the third-day post-implementation for both the control and experimental groups.

The data collection took place on two consecutive rounds. In the first round, routine nursing care was delivered, then patient satisfaction was measured. In the second round, the PPR system was implemented, and then patient satisfaction was measured again, followed by a comparison of the pre-and post-intervention satisfaction scores.

### 2.6. Data Collection

After securing the necessary approvals for the study (*i.e.* ethical and administrative), the researcher met with the nursing management and staff in the participating hospital to explain the study in brief and orient nurses on how to use the checklist and how to perform PPR. After educating the nurses and managers, the data collection started with Phase 1 (three weeks of traditional nursing care followed by satisfaction measurement), followed by Phase 2 (a sequential three weeks of PPR), patient satisfaction was measured after three days for both groups.

### 2.7. Pilot Study, Reliability and Validity

A pilot study was conducted prior to data collection to test research protocols, data collection instrument, and sample recruitment strategies. Moreover, the pilot study was conducted to identify potential problem areas and deficiencies in the research instrument and protocol prior to implementation during the full study. It also helped members of the research team become familiar with the procedures in the protocol.

The reliability of the patient satisfaction questionnaire was determined by Cronbach's alpha, inter-item correlation, and item-total correlation testing. Scale validity was assessed using the content validity index (CVI). The authors invited four experts to rate items' relevance, clarity, and appropriateness; these experts (methodologically speaking) comprised two senior staff nurses and a medical doctor with 10 or more years experience in UAE hospitals, and two patients who could read and write in Arabic and English (all of whom agreed to act as experts to comment on the items on the survey).

Item-level CVIs (ICVIS) of .78 or higher for three or more experts could be considered evidence of good content validity [17]. One item was removed according to the experts' rating.

The pilot study was implemented on a subset of the intended population including 15 participants. The analysis of data collected from the participants in the pilot study was analyzed and the Cronbach alpha was calculated. The instrument achieved a score of 0.91, indicating that the instrument had very good reliability.

### 2.8. Data Analysis

Descriptive statistics (frequency, mean, percentage, and standard deviation values) were used to describe the participants' characteristics and their satisfaction with the nursing care they received. Independent samples t-test was performed to compare the satisfaction of the patients in the control group and the experimental group.

### 2.9. Ethical Issues

Ethical approval was obtained from Research Ethics

Committee in the Ministry of Health (UAE). Informed consent was taken from all patients prior to including them in the study, and they were assured of their right to decline or withdraw without their care or statutory rights being affected. They were assured of their anonymity, and the researcher was blinded to the survey forms, which did not contain any patient identifiers (such as patient names or room numbers).

### 3. RESULTS

The sample of this study comprised 60 patients admitted to the surgical care unit, ranging from 18-55 years old. Purposive sampling by gender ensured that half of the participants were male and half were female (n = 30 each), who were admitted to the male and female surgical wards (respectively). The average length of stay in the hospital was about 5.27 days in the control group, while it was 8.27 days in the experimental group (as explained previously, the control and experimental groups

comprised the same cohort of patients, receiving treatment in two different phases).

Table 1 presents the personal characteristics of the participants. The results indicate that over a third of the control group were aged 46-55 years (n = 10, 34%), followed by those aged 26-35 (n = 9, 30%), 36-45 (n = 7, 23%), and 18-26 (n = 4, 13%). In the experimental group, almost half of the participants were aged 26-35 years (n = 13, 44%), followed by those aged 36-45 (n = 9, 30%), 46-55 (n = 7, 23%), and 18-25 (n = 1, 3%).

The experimental group's satisfaction scores were slightly higher than those of the control group for most of the satisfaction statements, as was the overall satisfaction score (experimental m = 4.6, control m = 4.41). However, the independent t-test indicated that this difference was not statistically significant (sig. 0.161). Table 2 details the satisfaction scores for all statements as reported between experimental and control group participants.

**Table 1. Participants' socio-demographic characteristics (n = 60).**

Characteristics		Number		Percent	
		Control	Experimental	Control	Experimental
Age (years)	18-25	4	1	13	3
	26-35	9	13	30	44
	36-45	7	9	23	30
	46-55	10	7	34	23
Gender	Female	15	15	50	50
	Male	15	15	50	50
Nationality	Citizen	19	10	36.3	33.3
	Non-citizen	11	20	36.7	67.7
Highest educational attainment	Elementary	4	5	13	16.7
	Intermediate	2	4	7	13.3
	High School	10	18	34	60
	Bachelor	13	3	43	10
	Postgraduate	1	0	3	0
Length of stay (days)	Control	5.27±2.6	-	-	-
	Experimental	8.27±9.5	-	-	-

**Table 2. Mean and standard deviation of participants' responses on nursing care.**

Statement	Control		Experimental	
	Mean	SD	Mean	SD
1. During your hospital stay, nurses treated you with courtesy and respect	4.67	.547	4.73	.583
2. During your hospital stay, nurses listened carefully to you	4.53	.571	4.53	.681
3. During your hospital stay, nurses explained procedures clearly	4.37	.615	4.60	.814
4. During your hospital stay, once you pressed the call button, nurses responded to you quickly	4.33	.922	4.50	1.009
5. During your hospital stay, your room and bathroom were kept clean	4.70	.535	4.47	.900
6. During your hospital stay, the area around your room was quiet at night	4.13	1.106	4.50	.900
7. You could get help with access to the bathroom or use the bedpan as soon as you want/ need it	4.37	.850	4.67	.547
8. During your hospital stay, nurses effectively responded to your pain, and it was well controlled	4.53	.507	4.67	.606
9. During your hospital stay, nurses asked you whether you needed help upon discharge from the hospital	4.23	.774	4.67	.547
10. Nurses gave adequate time for your care	4.43	.568	4.73	.521
11. In general, are you satisfied with the provided nursing care?	4.40	.724	4.67	.606
12. Would you recommend this hospital to your friend and family?	4.27	.691	4.53	.776
Overall Score	4.41	.48713	4.60	.555

In the control group, over a third of the participants were UAE citizens ( $n = 19, 36.3\%$ ), while in the experimental group, the majority were non-citizens ( $n = 20, 67.7\%$ ). There was only one (3%) master's degree holder from the control group, while approximately a third of the participants had bachelor's degrees ( $n = 13, 33\%$ ), and the same proportion were high school graduates ( $n = 10, 34\%$ ). In the experimental group, no one had a postgraduate degree, and the majority were high school graduates ( $n = 18, 60\%$ ), although 13 (16.7%) cited elementary school as their highest level of education. The length of stay mean score of the control group was ( $\bar{x}=5.27$ ), while that of the experimental group was ( $\bar{x}=8.27$ ).

#### 4. DISCUSSION

This study revealed that although there were no statistically significant differences in patient satisfaction, positive increases in patient satisfaction scores were noted. This supports the literature on the positive relationship between PPR and patient satisfaction [17, 18]. Systematic review studies reported that the satisfaction scores of patients who received rounding were significantly higher than that perceived by patients not receiving rounding [19]. Our results are also consistent with the findings of a one-year quasi-experimental study in surgical units in a 506-bed teaching hospital in the northeast US, which reported anecdotally that patient satisfaction was increased after rounding, although the results were not statistically significant [20].

A study of 50 NHS hospitals that implemented PPR also reported that there was a lack of data to suggest that rounding improved nursing care and patient satisfaction [21]. The implications of such findings indicate that either PPR does not significantly improve satisfaction, or that the outcomes measured to determine the effectiveness of PPR practice are not effective for such evaluation. The study concluded that although there were no statistically significant differences in patient satisfaction, there was a positive increase in patient satisfaction scores, which can be related to a short period of time for the implantation and small sample size.

PPR is considered to be very important because it maintains constant communication with patients, and makes the nurse more visible to meet patients' needs; thus, this inherently improves the quality of care delivered, as well as patient safety. Nevertheless, further research is needed to provide solid empirical evidence for the application of PPR in practice, as an evidence-based practice. It is also necessary to explore whether meeting the principles and the aims of PPR itself more effectively can improve patient care and satisfaction.

Implementing rounding interventions appears to be a suitable method for enhancing the performance and care provided by nurses in hospitals. This intervention involves direct conversations between nurses and hospitalized patients, and it can improve the nurse-patient therapeutic relationship [22]. Furthermore, this approach is a low-tech intervention that can be implemented in both high- and low-resource settings (making it particularly germane to improving the quality of care and patient outcomes in clinical contexts in developing countries). However, challenges may arise when implementing

proactive nurse rounding, such as nursing time constraints and the need for consistent practice. Hospital management may need to address these challenges to optimize the outcomes of PPR interventions.

Proactive rounding interventions are a practical and effective approach for addressing the needs of hospitalized patients in a timely manner. Unit nurse leaders should monitor the implementation of rounds, gather patients' feedback, and share this information with their team. While most studies on proactive rounding have been conducted in English-speaking countries such as the USA and UK, emerging evidence suggests that this approach can be used in diverse contexts. Additionally, implementing this intervention does not require nurses with advanced training. In low-resource settings, it may be useful to partner with other healthcare professionals and support staff to ensure successful implementation.

Assessing whether the demographic variables of participants affected their satisfaction scores revealed no significant associations, other than Emirati nationals being less satisfied with the services they received than non-Emirati patients. This could be attributed to the linguistic and cultural differences between the patients and the healthcare professionals, especially nurses. The majority of nurses are expatriates who do not speak Arabic (the national language), and who typically speak English as a second language, in addition to usually having very different cultural and religious beliefs from the majority national population. Similar findings were reported by a study in Malaysia, which revealed that ethnicity (manifest in language and culture) was the only factor associated with patient satisfaction, whereby patients with similar ethnicities to that of their healthcare professionals report higher satisfaction scores [9].

The findings of our study also show that both groups had a high average rating for how nurses dealt with patients with courtesy and respect. Attitudes seem to be the area that patients focus on while dealing with healthcare professionals; positive professional attitudes result in positive perceptions, experiences, and satisfaction among patients, and vice versa. This affirms the findings of a study reporting that nurses' service attitudes were the most influential factors contributing to high patient satisfaction scores [23].

#### 5. LIMITATIONS

Overall, the generalizability of the current study findings was limited due to the study being limited to one setting with one specialty (surgical), as well as having a limited number of participants. Moreover, the study took only six weeks, whereas the actual implantation of PPR entails three weeks. A longitudinal study might have yielded different results from this research, with more insight into the long-term impacts and sustainability of PPR in practice.

Another limitation was the lack of randomization in an assignment, which might affect the results. It was noted that the length of stay for patients in the experimental group was longer, which could mean that the nature of their surgeries was complex, which could have affected the study results.

In addition, practical obstacles to optimum PPR

implementation were identified, such as staff shortages and workload of those departments making the PPR challenging to implement strictly every two hours. Similarly, a comprehensive training program should be provided to the nurses who will carry out the PPR, rather than an elementary awareness session as provided in this study, which is not sufficient to galvanize a new change in practice.

Nurse leaders, like directors of nursing and nurse managers and supervisors, can contribute to PPR success if they conduct at least a weekly audit and round to the departments which carry the PPR, but unfortunately, this does not happen, as the whole project was assumed to be the researcher's responsibility. Another obstacle was that the surgical unit was undergoing renovation and maintenance during the time of implementation, which placed additional pressure on nurses and inhibited optimum PPR implementation.

## 6. IMPLICATIONS FOR NURSING

This study is useful in directing attention to the influence of PPR on several aspects, like patient satisfaction, reduced pressure ulcers, and decreased call lights. The current study highlighted recommendations that can be beneficial to nursing administration, practice, education, and research. This study provides realistic data from different literatures and an intervention that can assist decision-makers to adopt policies and procedures that will enhance the PPR process.

## CONCLUSION

In recent years, hospitals have become very dynamic, requiring nurses to explore new strategies to provide high-quality, evidence-based care that focuses on patient satisfaction, needs, and time-cost efficiency [6]. PPR is an effective way for nurses to regularly attend to patients' emotional and physical needs, which is central to patients' feeling safe and cared for whilst hospitalized [24]. Implementing rounding interventions can be a suitable method for improving the performance and care of nurses in hospitals. This low-tech intervention involves direct conversations between nurses and patients and can be used in both high and low-resource settings. However, challenges may arise when implementing proactive nurse rounding, such as nursing time constraints and consistent practice. Proactive rounding interventions are a practical and effective approach for addressing the needs of hospitalized patients, and unit nurse leaders should monitor its implementation and gather patients' feedback. This approach can be used in diverse contexts and does not require advanced nurse training. Partnering with other healthcare professionals and support staff can ensure successful implementation in low-resource settings.

Despite the statistical insignificance of the results, it can be concluded that PPR is an important tool as it improves communication with patients, and makes nurses more visible to meet patients' needs, thereby intrinsically improving the quality of care and patient safety. PPR promotes the mutual interaction and communication between nursing staff and their patients, increases attention to patient needs, and thus enhances the potential for meeting their needs.

In addition, staff shortages and high workloads in surgical

departments meant that the PPR could only be implemented strictly every two hours, which might result in inconsistencies and fluctuations in implementation that affected the results.

## LIST OF ABBREVIATIONS

<b>CVI</b>	= Content Validity Index
<b>GCC</b>	= Gulf Cooperation Council
<b>HCAHPS</b>	= Hospital Consumer Assessment of Healthcare Providers and Systems survey
<b>ICVIS</b>	= Item-level CVIs
<b>PPR</b>	= Proactive Patient Rounding
<b>UAE</b>	= United Arab Emirates

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical approval was obtained from the Ministry of Health ethics committee under the reference number (Reference no. REC-17-03-30).

## HUMAN AND ANIMAL RIGHTS

This study has been conducted according to the declaration of Helsinki in 1964

## CONSENT FOR PUBLICATION

Informed consent was obtained from all the participants prior to enrollment in the study.

## AVAILABILITY OF DATA AND MATERIALS

Derived data supporting the findings of this study are available from the corresponding author (Ruqaya Ahmed ALShehhi) on request.

## STANDARDS OF REPORTING

STROBE guidelines were followed in this study.

## CONFLICT OF INTEREST

There is no conflict of interest or personal relationship between the authors that could have appeared to influence the work reported in this paper.

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## REFERENCES

- [1] Figueroa CA, Harrison R, Chauhan A, Meyer L. Priorities and challenges for health leadership and workforce management globally: A rapid review. *BMC Health Serv Res* 2019; 19(1): 239. [http://dx.doi.org/10.1186/s12913-019-4080-7] [PMID: 31014349]
- [2] Bruton J, Norton C, Smyth N, Ward H, Day S. Nurse handover: Patient and staff experiences. *Br J Nurs* 2016; 25(7): 386-93. [http://dx.doi.org/10.12968/bjon.2016.25.7.386] [PMID: 27081733]
- [3] Gormley DK, Costanzo AJ, Goetz J, et al. Impact of nurse-led interprofessional rounding on patient experience. *Nurs Clin North Am* 2019; 54(1): 115-26.

- [4] [http://dx.doi.org/10.1016/j.cnur.2018.10.007] [PMID: 30712538]  
Hutchinson M, Jackson D. Editorial: Intentional rounding: Unpacking the ritual, routine and evidence impasse. *J Clin Nurs* 2016; 25(1-2): 5-7.
- [5] Johnson B, Bryant L. Call bell usage: Tracking the effect of hourly staff rounding. *Clin J Oncol Nurs* 2020; 24(3): 328-30.  
[http://dx.doi.org/10.1188/20.CJON.328-330] [PMID: 32441687]
- [6] Flowers K, Wright K, Langdon R, McIlwrath M, Wainwright C, Johnson M. Intentional rounding: Facilitators, benefits and barriers. *J Clin Nurs* 2016; 25(9-10): 1346-55.  
[http://dx.doi.org/10.1111/jocn.13217] [PMID: 27028974]
- [7] Lichstein PR, Atkinson HH. Patient-centered bedside rounds and the clinical examination. *Med Clin North Am* 2018; 102(3): 509-19.  
[http://dx.doi.org/10.1016/j.mcna.2017.12.012] [PMID: 29650072]
- [8] Meade CM, Bursell AL, Ketelsen L. Effects of nursing rounds: On patients' call light use, satisfaction, and safety. *Am J Nurs* 2006; 106(9): 58-70.  
[http://dx.doi.org/10.1097/00000446-200609000-00029] [PMID: 16954767]
- [9] Tang WM, Soong C, Lim WC. Patient satisfaction with nursing care: A descriptive study using interaction model of client health behavior. *Int J Nurs Sci* 2013; 3(2): 51-6.
- [10] Daniels JF. Purposeful and timely nursing rounds: A best practice implementation project. *JBI Database Syst Rev Implement Reports* 2016; 14(1): 248-67.  
[http://dx.doi.org/10.11124/jbisrir-2016-2537] [PMID: 26878929]
- [11] Kirk K, Kane R. A qualitative exploration of intentional nursing round models in the emergency department setting: Investigating the barriers to their use and success. *J Clin Nurs* 2016; 25(9-10): 1262-72.  
[http://dx.doi.org/10.1111/jocn.13150] [PMID: 26991733]
- [12] Mitchell MD, Lavenberg JG, Trotta RL, Umscheid CA. Hourly rounding to improve nursing responsiveness: A systematic review. *J Nurs Adm* 2014; 44(9): 462-72.  
[http://dx.doi.org/10.1097/NNA.000000000000101] [PMID: 25148400]
- [13] Krepper R, Vallejo B, Smith C, *et al.* Evaluation of a standardized hourly rounding process (SHaRP). *J Health Qual* 2014; 36(2): 62-9.  
[http://dx.doi.org/10.1111/j.1945-1474.2012.00222.x] [PMID: 23237186]
- [14] Sun C, Fu CJ, O'Brien J, Cato KD, Stoerger L, Levin A. Exploring practices of bedside shift report and hourly rounding. is there an impact on patient falls? *J Nurs Adm* 2020; 50(6): 355-62.  
[http://dx.doi.org/10.1097/NNA.0000000000000897] [PMID: 32433115]
- [15] Skivington K, Matthews L, Simpson SA, *et al.* A new framework for developing and evaluating complex interventions: Update of Medical Research Council guidance. *BMJ* 2021; 374(2061): n2061.  
[http://dx.doi.org/10.1136/bmj.n2061] [PMID: 34593508]
- [16] Odias MJB. Barriers encountered by nurses and nursing assistants that prevent purposeful rounding. Theses, Dissertations University of San Francisco. 2015.
- [17] Polit DF, Beck CT, Owen SV. Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Res Nurs Health* 2007; 30(4): 459-67.  
[http://dx.doi.org/10.1002/nur.20199] [PMID: 17654487]
- [18] Brosinski C, Riddell A. Incorporating hourly rounding to increase emergency department patient satisfaction: A quality improvement approach. *J Emerg Nurs* 2020; 46(4): 511-7.  
[http://dx.doi.org/10.1016/j.jen.2019.08.004] [PMID: 32220393]
- [19] Bayram A, Özsaban A, Longhini J, Palese A. Nurse manager intentional rounding and outcomes: Findings of a systematic review. *J Adv Nurs* 2023; 79(3): 896-909.  
[http://dx.doi.org/10.1111/jan.15307] [PMID: 35608050]
- [20] Orlich T, Kalman M, Nigolian C. Hourly rounding: A replication study. *Medsurg Nurs* 2012; 21(1): 23-26, 36.  
[PMID: 22479871]
- [21] Langley S. Effects of rounding on patient care. *Nurs Stand* 2015; 29(42): 51-9.  
[http://dx.doi.org/10.7748/ns.29.42.51.e9951] [PMID: 26080990]
- [22] Sims S, Leamy M, Davies N, *et al.* Realist synthesis of intentional rounding in hospital wards: Exploring the evidence of what works, for whom, in what circumstances and why. *BMJ Qual Saf* 2018; 27(9): 743-57.  
[http://dx.doi.org/10.1136/bmjqs-2017-006757] [PMID: 29540512]
- [23] Fang J, Liu L, Fang P. What is the most important factor affecting patient satisfaction – a study based on gamma coefficient. *Patient Prefer Adherence* 2019; 13: 515-25.  
[http://dx.doi.org/10.2147/PPA.S197015] [PMID: 31114168]
- [24] East L, Targett D, Yeates H, Ryan E, Quiddington L, Woods C. Nurse and patient satisfaction with intentional rounding in a rural Australian setting. *J Clin Nurs* 2020; 29(7-8): 1365-71.  
[http://dx.doi.org/10.1111/jocn.15180] [PMID: 31904154]