Relationship Between Patient Satisfaction Scores and the Incidence of Nursing Quality Care Indicators

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Abstract: This research is an ex-post facto quantitative correlational study exploring the relationship between patient satisfaction scores and the incidence of nursing quality care indicators of patient falls, unit acquired pressure ulcers (UAPU), central line associated bloodstream infections (CLABSI), and catheter associated urinary tract infection (CAUTI) in four different medical surgical telemetry units in a tertiary level hospital. The current study used 2014 and 2015 archival data for 96 unit-months of patient satisfaction scores from the Press Ganey survey and incidence of nursing quality care indicators from the National Database of Nursing Quality Indicators (NDNQI) program. Patient satisfaction and incidence of nursing quality care indicators are grounded in King's goal attainment theory. A review of the literature was conducted using electronic databases, published articles, books, journals, and reports. The Press Ganey survey, which contains Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) questionnaire items 1 to 22, was used to assess patient satisfaction on the care from the nurses. Spearman's correlation was used to address the research question and hypothesis. Given that 13 of 105 correlations were significant, these findings provided insufficient support to reject the null hypothesis. Study limitations included Cronbach's reliability coefficient for hospital environment that had only 2 items was $\alpha = 0.35$, which is not an acceptable scale. Future research is recommended to examine patient satisfaction survey scores from patients who have experienced a fall, UAPU, CLABSI, or CAUTI during hospitalization.

Keywords: *unit acquired pressure ulcers, central line associated bloodstream infections, and catheter associated urinary tract infection, nursing quality care indicators, patient satisfaction scores*

1. Introduction

The initiation of value-based purchasing by Centers for Medicare and Medicaid Services (CMS) has made patient satisfaction scores vital for the survival of healthcare industry. The CMS uses patient satisfaction scores to determine the percentage of healthcare reimbursement for inpatient healthcare services for healthcare facilities [9,39]. CMS implemented the Pay-for-Performance program on October 1, 2012. This program was based on patient satisfaction scores measured by Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) [39].

HCAHPS scores government websites, which allows patients to compare hospitals and affect reimbursement for inpatient hospital services based on patient experiences during hospitalization. In 1998, the American Nurses Association established the National Database of Nursing Quality Indicators (NDNQI) to collect data and to develop nursing knowledge related to factors that influence nursing care services.

The NDNQI collects data on the incidence of certain nursing quality care indicators to evaluate nursing care services based on structure, process, and outcomes. Specifically, the nursing quality care indicators are patient falls, unit acquired pressure ulcers (UAPU), central line associated bloodstream infections (CLABSI), and catheter associated urinary tract infection (CAUTI) [35].

2. Purpose of the Study

The purpose of this study was to explore the relationship between patient satisfaction scores and incidence of NDNQI of patient falls, UAPU, CLABSI, and CAUTI. The study hospital reports when the incidence of nursing quality care indicators fall below the 50th percentile when compared with the NDNQI benchmark; the patient satisfaction scores measured by Press Ganey survey is less than 85% [32]. In 2014, approximately 9,000 patients per month visited the emergency room of the study hospital located in Long Island, New York. Approximately 25% of these patients were admitted to four different medical surgical telemetry units, which maintained 30 patient beds each.

3. Research Question and Hypotheses

The following research question guided this study:
Q 1. Is there a significant relationship between patient satisfaction scores and the incidence of nursing quality care indicators of patient falls, UAPU, CAUTI, and CLABSI?
H0 1. There is no relationship between the patient satisfaction scores and incidence of nursing quality care indicators of patient falls UAPU, CAUTI, and CLABSI.
Ha 1. There is a relationship between the patient satisfaction scores and incidence of nursing quality care indicators of falls, UAPU, CAUTI, and CLABSI.
Q 2. Is there a significant relationship between hospital experience scores and the total indicators scores of falls, UAPU, CAUTI, and CLABSI?
H0 2. There is no relationship between the hospital experience scores and the total indicators scores of falls, UAPU, CAUTI, and CLABSI.
Ha 2. There is a relationship the between hospital experience scores and the total indicators scores of falls, UAPU, CAUTI, and CLABSI.
Q 3. Is there a significant relationship between psychometric characteristics for the total and five scale scores for the HCHAPS?
H0 3. There is no relationship between the psychometric characteristics for the total and five scale scores for the HCHAPS.
Ha 3. There is a relationship between the psychometric characteristics for the total and five scale scores for the HCHAPS.

4. Review of the Literature

An intensive review of the literature was conducted using electronic databases as well as published articles, books, journals, documents, and reports. The databases included the Cumulative Index for Allied Health Literature (CINAHL), EBSCOhost, ProQuest, Google, Google Scholar, and Bing were used in the literature review.

4.1. Patient satisfaction

Patient satisfaction is a multidimensional concept which is a measurable quality healthcare indicator and the outcome of quality nursing care services [3,20,22,24,30,34,40]. Patient satisfaction is an endpoint to appraise the healthcare and to determine the selection of healthcare organization and reimbursement [38].

4.2. Patient Satisfaction and Hospital Experience

Patient satisfaction on hospital experience is a valuable metric that assesses healthcare delivery, measures patient centered care, and focuses on value-based incentive programs implemented by hospital administrations [16,46]. A clear focus on financial gain to improve patient experience at the same time is critical [46] to maintain positive patient healthcare outcome with limited resources. According to [39], achieving positive patient experiences requires an investment of people, time, and an unwavering commitment from hospital administration. Patient expectations, healthcare outcome, and time are the factors that influence patients' perceptions of their hospital experience [16].

4.3. Patient Satisfaction and Hospital Environment

According to [27], the American Hospital Association (AHA) in collaboration with the American Society for Healthcare Engineering (ASHE), improving healthcare physical environment leads significantly to improvement in patient satisfaction. Patient satisfaction is based on three elements: healthcare individuals, healthcare practice, and healthcare environment [14]. According to [14] and [26], an increased attention to quiet time, safe, clean, and comfortable hospital environment will attract and retain patients, maximize reimbursement, and achieve highest healthcare outcome. Noise is the biggest concern with patient satisfaction.

4.4. Nursing Care Services

According to [23] and [45], nursing care service is linked with patient satisfaction, clinical practice, and healthcare outcome. Nursing care services have interdependent subjective and objective aspects that affect patient satisfaction, which can be increased by providing personalized nursing care [5]. Personalized nursing care requires time, which includes time to comfort, time to listen, as well as time to educate and care for patients based on their needs and assess the relationship between nursing care services and patient satisfaction [19,20]. [18] measured improvements in patient experience and nursing care services through the incidence of nursing quality care indicators. Measuring patients' perceptions and expectations on nursing care service are important for improving incidence of nursing quality care indicators. Patients expect low incidences of patient falls, UAPU, CAUTI, and CLABSI in their healthcare facility.

4.5. Technical Aspect of Nursing Care Services

[1] revealed that a higher level of patient satisfaction was on nurse's technical skills than on the interpersonal relationship skills or coordination of services in providing nursing care. [10] addressed that patients do not appraise the technical aspect of nursing care service received from healthcare providers accurately.

4.6. Patients' Expectation and Perception on Nursing Care Service

Patient perception and expectation influence the subjective and technical aspect of nursing care service. Patients' perceptions of nursing care services are critical indicators for the hospital administration because they directly affect patient satisfaction [41]. Patient satisfaction is the balance between the patient's perception and expectation of nursing care services provided during hospitalization [2].

4.7. Patient perception

[10] conducted a cross-sectional study on trauma patients admitted to a level 1 trauma center and investigated patients' perception of nursing care service, which affect patient satisfaction. [4] stated that patients' perceptions and expectations are universal decisions that affect patient satisfaction on nursing care service.

4.8. Incidence of Nursing Quality Care Indicator

Nursing quality care indicators are the measuring tools that measure, improve, and provide transparency of the nurse's contribution to patient healthcare outcomes [11,25]. In 1996, a group of researchers used the term nursing sensitive indicators that emphasize nurse-patient quality healthcare outcome [11]. [28,29,43] studied nurses' perceptions, nurse administrators, nursing leaders, and chief nursing officers' perceptions on incidence of nursing quality care indicators, such as patient satisfaction scores, nursing care services, CLABSI, and CAUTI. The incidence of nursing quality care indicators is inextricably linked to the CMS pay for performance [15].

Most of the literature review focused on the relationship between nursing care services and patient satisfaction based on perceived and expected nursing care services rather than on the technical aspects of nursing care services [2,20,23,25,45]. [36] focused on communication between patient and the physician, patient loyalty, and healthcare quality indicators, such as medical error that affect patient satisfaction scores.

No studies were found in the review of the literature on patient experience and nursing care services in the inpatient medical surgical telemetry unit that affects patient outcome, such as number of falls, UAPU, CAUTI, and CLABSI. Conversely, the literature review identified the relationship between patient satisfaction scores, patient perception, and patient expectation on subjective aspects of nursing care service, such as trustworthiness, approachability, reassurance, compassion, and tangibles. The literature review validated the healthcare professionals, such as nursing administrators and nursing leader's perceptions on incidence of nursing care services [29].

The current study bridged the gap between patient satisfaction scores and the technical aspects of nursing care services measured by incidence of nursing care services, such as number of falls, UAPU, CLABSI, and CAUTI, which directly influence hospital value-based purchasing program.

5. Informed Consent and Confidentiality

Archival de-identified unit specific data published on the hospital intranet website were used to collect data on patient satisfaction and nursing quality care indicators. Permission from the health care facility Institutional Review Board (IRB) and the University of Phoenix IRB were received before data collection.

6. Sampling

The population consisted of patients with various health insurances such as Medicare, Medicaid, private insurance, and patient self-pay. Patients admitted to the units have medical surgical health problems, such as diabetes, hypertension, heart disease, renal disease, and gastrointestinal disease. The patient population had variations in socioeconomic status, gender, age, race, sex, and nationality. The Press Ganey survey HCAHPS questions are conducted within 48 hours to 6 weeks after a patient's discharge.

Archival Press Ganey survey containing HCAHPS scores and NDNQI data from four medical surgical telemetry unit in a tertiary level hospital in Eastern Long Island New York from 2014-2015 were

analyzed to explore the significant relationship between patient satisfaction scores and incidence of nursing quality care indicators of falls, UAPU, CAUTI, and CLABSI. Random sampling process was used to select the subjects for the selected study to find a relationship between the patient satisfaction and nursing quality care indicators. The criteria for the selected sample of the study were the same as the criteria for Press Ganey/HACHPS survey.

Power analysis is the most common method in calculating sample size for quantitative correlation research study. To determine the needed sample size for a multiple regression model, the G*Power 3.1 software program [17] was used. Measuring patient satisfaction as one predictor based on a medium effect size ($f2 = 0.15$), an alpha level of $\alpha = 0.05$, the needed sample size to achieve sufficient power (0.80) would be 55 participants.

7. Reliability and Validity

The Press Ganey survey that contains the HCAHPS questionnaire is a standardized instrument used to measure patient satisfaction on quality healthcare services. HCAHPS survey is a standardized data collection tool used since 2006 to collect valid information that enables researchers to compare data on patient satisfaction across all nationwide hospitals [12].

According to [13], Cronbach's alpha (internal consistency) is 0.80 and Spearman's Brown reliability is 0.84. Pearson correlation (linear scoring) for HCAHPS measures range from 0.30 to 0.51. Construct validity of HCAHPS related to recommend hospital (r square = 0.51), nurse communication (r square = 0.50), communication about medicines (r square = 0.21), overall hospital rating (r square = 0.48) [13].

8. Research Method and Design

Using an ex-post facto quantitative correlation study method approach was well suitable for this current study. Archival data consist of patient satisfaction from Press Ganey/HCAHPS survey and incidence of nursing quality care indicators of patient falls, UAPU, CLABSI, and CAUTI were analyzed to explore any significant relationships. Based on the research question and hypotheses, the ex-post factor quantitative correlational design was selected.

 Considering the research purpose and hypotheses, it is essential to analyze the relationship between the two variables: patient satisfaction and incidence of nursing quality care indicators of patient falls, UAPU, CLABSI, and CAUTI. Researchers used the quantitative correlational design, not only to discover the causal or correlational relationship between the study variables, but so a positive or negative relationship could be noted [6,21]. For this study design, only an ex-post facto quantitative correlational design could provide an outline in understanding the relationship between the variable in coordination with aim and purpose of the study [37,47].

9. Data Analysis and Considerations

The IBM SPSS statistic computer software was used to analyze these data. It helped the evaluator to analyze the difference between the two variables in a meaningful way. The descriptive statistics and correlation coefficient was also calculated. Spearman's correlation coefficient was used to test the research hypothesis.

10. Data Cleaning and Preparation

A total of 578 patients completed at least part of a patient satisfaction survey during the 24-month study period. The number of missing answers on each survey ranged from 0 to 18 (Mdn = two). Based on an examination of the distribution of missing answers, a decision was made to include only those surveys with four or less missing answers, which resulted in 487 surveys (84.3% of original sample).

Missing data were estimated using the overall mean for the variable [42]. These data were then aggregated into the 96 unit-months (4 nursing units for 24 months). Each unit-month had between 0 and 13 completed patient surveys (Mdn = 5 surveys). A decision was then made to include only those unit-months that had at least three completed patient surveys, which resulted in 81unit months (84.4% of the unit-months). Thus, the final sample size for this study was 81 separate unit-months.

11. Results

11.1. Patient Satisfaction

Table 1 displays the psychometric characteristics for the total and five scale scores for the HCHAPS. The mean of the participant's overall total HCHAPS score was 3.41. Among the four HCHAPS subscale scores, the highest was physician/doctors care (M = 3.59) while the lowest score was hospital environment (M = 3.19). The Cronbach reliability coefficients ranged in size from α = .35 to α = .86 with the median sized coefficient being α = .79 (Table 1).

Table 1. Psychometric Characteristics for the Summated Scale Scores (N = 81)

Scale	Member of Items	M	SD	Low	High	α
Nursing Care	4	3.54	0.26	2.98	4.00	.82
Physician/Doctors Care	3	3.59	0.23	3.00	4.00	.79
Hospital Environment	2	3.19	0.31	2.30	3.86	.35
Hospital Experience	5	3.30	0.30	2.45	3.93	.64
Total Score	1	3.41	0.23	2.81	3.84	.86

Note: Scale based on a four-point metric: 1 = Never to 4 = Always

11.2. Patient Satisfaction and Quality Care Indicators

Spearman's correlation coefficients were computed between the four subset scores on the Patient Satisfaction survey scores and the Nursing Quality Care (NQC) Indicators. A p-value of less than .05 was required for significance. Table 2 displays Spearman's correlations for the five NQC indicators with the five satisfaction scores from the HCHAPS. Of the 25 correlations, seven were significant at the 0.05 level of significance. Four of the five satisfaction scales were negatively related to the number of patients falls with the largest correlation being with the hospital experience score (rs = -.29, p < .01). Also, the total indicators score was negatively related to three of the five satisfaction scale scores with the largest correlation being with the hospital experience score (rs = -.26, p < .05) (Table 2).

Table 2. Spearman's Correlations Between Indicators and Satisfaction Scores (N = 81)

Nursing Quality Care Indicators	Satisfaction Scale Scores (a)				
	1	2	3	4	5
UAPU	-.06	.04	.04	.00	.01
CLABSI	-.01	.04	-.13	.07	.01
CAUTI	.15	-.08	.02	.00	.01
Number of Patient Falls	-.16	-.23 *	-.28 **	-.29 **	-.27**
Total Indicators	-.18	-.19	-.22 *	-.26 *	-.25 *

* $p < .05$. ** $p < .01$.

(a) Scale Scores: 1 = Nursing Care; 2 = Physician / Doctors Care; 3 = Hospital Environment;

4 = Hospital Experience; 5 = Total Patient Satisfaction Score.

UAPU = Unit Acquired Pressure Ulcers. CLABSI = Central Line Associated Bloodstream Infections. CAUTI = Catheter Associated Urinary Tract Infection.

12. Discussion

There was a positive correlation between the nurses treating patients with courtesy and respect and CAUTI. Treating the patients with courtesy and respect is a subjective aspect of nursing care services, which can be increased by providing personalized or individualized nursing care [9,10,20]. The rationale for the positive correlation could be that nurses are providing more personalized or individualized nursing care services to patients with a urinary catheter.

The number of patient falls and total indicators confirmed a negative relationship with answering call bell, and noise in the room. The negative correlation between answering call bells and incidence of falls may indicate that the call bell was not answered quickly enough, which resulted in a patient fall. A conclusion might be that the patients at risk for falls were monitored more at night, thus increasing the noise in the room. According to [18], patients' perceptions are likely to focus on nursing quality care services, such as reliability, communication, paying attention, compassion, and approachability of their nurses.

The number of patient falls and total indicators confirmed a negative relationship with hospital staff educating patients about medication management. [5], and [28] supported that the health education provided by healthcare professionals motivated the patients to follow healthcare instructions and maximized the positive healthcare outcomes.

13. Limitation

Limitation of the study included a sample population of patients who pursued medical services and were admitted to one tertiary level of an Eastern Long Island hospital in New York. The second limitation was the potential for human error during transferring the patient satisfaction score to an Excel spread sheet. The other limitation was the lack of reliable data on selected patients who completed the patient satisfaction surveys used in this study. Patient satisfaction scores and incidence of nursing quality care indicators falls, UAPU, CLABSI, and CAUTI from Press Ganey and Associates for the years of 2014 and 2015 were only used in this study.

The incidence of nursing quality care indicators, such as nursing hours per patient, vacancy rate, education of the nurse, certification, and injury with falls, may have also influenced the patient

satisfaction and were not taken into consideration. According to [7] and [33], cultural dissimilarities, physicians care, and other dynamics factors influence the patients' opinions of care. Other factors, such as the demographic data of the patients, nursing workload, patient acuity, patient length of stay, and readmission may also have influenced the patient satisfaction and nursing quality care and were not measured in this study.

14. Recommendations for Future Research

Joint Commission for Hospital Accreditation, CMS, and other federal government regulatory bodies that provide healthcare guidelines should encourage future research to establish more definitive evidence related to patient satisfaction scores and nursing quality care indicators. Nursing clinical practitioners should conduct additional research to include other in-patient clinical areas that could be used to verify the findings to incorporate improvements into nursing orientation and annual nursing recertification program. Administrative and nursing policymakers for hospital, local, state, and federal organizations should use the research to validate study results for further research to implement changes. Scholastic societies, such as nursing schools, should conduct additional research that could be used to authenticate the study results to develop and integrate improvements into the nursing curriculum. The use of a mixed method approach could be beneficial to conduct an in-depth data analysis of the variables because this methodology could embrace an investigation of additional dimensions such as family satisfaction.

15. Conclusion

This research study was designed to examine the association between patient satisfaction scores and incidence of nursing quality care indicators of patient falls, UAPU, CLABSI, and CAUTI. Most of the literature review focused on the relationship between nursing care services and patient satisfaction was based on perceived and expected nursing care services rather than on the technical aspects of nursing care services. Some of the reviewed studies focused on communication between patient and the physician, patient loyalty, and healthcare quality indicators, such as medical error, that affect patient satisfaction scores. Spearman correlation coefficients were applied to the collected data and yielded limited support to show the significant relationship between patient satisfaction scores and incidence of nursing quality care indicators of patient falls, UAPU, CLABSI, and CAUTI. Because of the insufficient level of evidence from the data analysis results for the research question, the null hypothesis was accepted, and the alternate hypothesis was rejected.

The statistically significant findings of the research provided a broad base for research on the topic. Recommendations for further research and suggested changes for healthcare leaders, nurses, and regulatory bodies were presented.

References

[1]   Alhashem, A. M.; Alquraini, H.; Chowdhury, R. I. Factors influencing patient satisfaction in primary healthcare clinics in Kuwait. International Journal of Health Care Quality Assurance, Vol. 24, pp. 249-262, (2011) DOI: http://dx.doi.org/10.1108/09526861111116688

[2]   Ahmed, M.; Shehadeh, A.; Collins, M. Quality of nursing care in community health centers: Clients' satisfaction. Health Science Journal, Vol. 7, 229236, (2013)   http://www.researchgate.net/publication/236850745.

[3]   Al Qahtani, M.; Al Dahi, S. K. Satisfaction with nursing care from the inpatient's perspective in prince Salman armed forced hospital Tabuk, Saudi Arabia. Middle East Journal of Family Medicine, Vol. 13, No. 2, pp. 1317. (2015) DOI: https://doi.org/10.5742/MEWFM.2015.92665

[4]   Anonymous. Callbacks can improve patient satisfaction. Healthcare Benchmarks and Quality Improvement, 9092, 2011 http://search.proquest.com/docview/878916192?accountid=458, http://www.ncbi.nlm.nih.gov/pubmed/21837858.

[5]   Arghode, V. Qualitative and quantitative research: Paradigmatic differences. Global Education Journal, pp. 155-163, (2012) DOI: http://www.franklinpublishing.net /globaleducation.html

[6]   Alrubaiee, L.; Alkaa'ida, F. The mediating effect of patient satisfaction in the patients' perceptions of healthcare quality patient trust relationship. International Journal of Marketing Studies, Vol. 3, No. 1, 103127, (2011) http://www.ccsenet.org/journal/index.php/ijms, www.ccsenet.org/journal/index.php/ijms/article/viewFile/9278/8577.

[7]   Ashkar, Z. M. Association of process of care quality measures with global patient satisfaction in west south central US hospitals (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Global. (3734424), 2015.

[8]   Bauman, C. A.; Milligan, J. D.; Patel, T.; Pritchard, S.; Labreche, T.; Dillon-Martin, S.; Riva, J. J. Community-based falls prevention: Lessons from an inter-professional mobility clinic. Journal of the Canadian Chiropractic Association, Vol. 58, pp. 300-31,(2004).

[9]   Becker, J. A. Examining relationships between hospital inpatient expectations and satisfaction for maximum Medicare reimbursement (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Full Text. 3601243, 2013.

[10] Berg, G. M.; Spaeth, D.; Sook, C.; Burdsal, C.; Lippoldt, D. Trauma patient perceptions of nursing care. Journal of Trauma Nursing, Vol. 19, 104110, (2012) DOI:10.1097/JTN.0b013e3182562997.

[11] Burston, S.; Chaboyer, W.; Gillespie, B. Nurse-sensitive indicators suitable to reflect nursing care quality: A review and discussion of issues. Journal of Clinical Nursing, Vol. 23, pp. 1785-1795, (2014) DOI:10.1111/jocn.12337.

[12] Centers for Medicare & Medicaid Services. HCAHPS: Patients' perspectives of care survey. (2013) DOI:http://www.cms.gov/medicare/quality-initiatives-patient-assessment-instrument

[13] Centers for Medicare & Medicaid Services. HCAHPS fact sheet. June, (2015) DOI: http://www.hcahpsonline.org/Facts.aspx

[14] Eagle, A. Building patient satisfaction: Physical environments can lead to better patient experiences and HCAHPS scores. Health Facilities Management, Vol. 29, No. 8, (2016) http://search.proquest.com/docview/1790066482?accountid=35812.

[15] Edelstein, T. Nursing pay-for-performance: A way to increase quality? (Doctoral dissertation). ProQuest Dissertations & Theses Full Text. 35812, 2015.

[16] Edwards, K. J.; Duff, J.; Walker, K. What really matters? A multi-view perspective of one patient's hospital experience. Contemporary Nurse: A Journal for the Australian Nursing Profession, Vol. 49, No. 1, 122136, (2014) DOI:10.5172/conu.2014.49.122.

[17] Faul, F.; Erdfelder, E.; Buchner, A.; Lang, A. G. Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. Behavior Research Methods, 41, 11491160, (2009) DOI:https://doi.org/10.3758/BRM.41.4.1149

[18] Freitas, J. S.; Silva, A. E.; Minamisava, R.; Bezerra, A. L. Q.; Sousa, M. R. G. Quality of nursing care and satisfaction of patients attended at a teaching hospital. Revista Latino-Americana de Enfermagem, Vol. 22, pp. 454-460, (2014) DOI: https://doi.org/10.1590/0104-1169.3241.2437

[19] Foulkes, M. Nursing metrics: Measuring quality in patient care. Nursing Standard, Vol. 25, No. 42, pp. 4045, quiz 46, (2011). http://search.proquest.com/openview/4ef7a18c85a6f734ae6a3b45d1023303/1?pq-origsite=gscholar. http://www.ncbi.nlm.nih.gov/pubmed/14649018.

[20] Gurdogan, E. P.; Findik, U. Y.; Arslan, B. K. Patients' perception of individualized care and satisfaction with nursing care levels in Turkey. International Journal of Caring Sciences, 8, 369375, (2015). DOI: http://www.internationaljournalofcaringsciences.org/docs/14_findic.pdf.

[21] Hoe, J.; Hoare, Z. Understanding quantitative research: Part 1. Nursing Standard, Vol. 27, No. 15-17, pp. 52-57, (2012) DOI: http://www.ncbi.nlm.nih.gov/pubmed/23346707

[22] Hush, J. M.; Cameron, K.; Mackey, M. Patient satisfaction with musculoskeletal physical therapy care: A systematic review. Physical Therapy, Vol. 91, No. 1, pp. 25-36, (2011) DOI: https://doi.org/10.2522/ptj.20100061

[23] Keeley, P.; Wolf, Z.; Regul, L.; Jadwin, A. Effectiveness of standard of care protocol on Patient satisfaction and perceived staff caring. Clinical Journal of Oncology Nursing, 19, 352360, (2015) DOI: http://dx.doi.org.contentproxy.phoenix.edu/10.1188/15.CJON.352-360.

[24] Laal, M. Inpatients' perspective on nursing care affecting factors. Procedia-Social and Behavioral Sciences, Vol. 84, No. 7, pp. 243-247, (2013) DOI: https://doi.org/10.1016/j.sbspro.2013.06.543

[25] Leemans, K.; Deliens, L.; Francke, A.L.; Vander Stichele, R.; Van den Block, L.; Cohen, J. Quality indicators for palliative care services: Mixed-method study testing for face validity, feasibility, discriminative power and usefulness. Palliative Medicine, Vol. 29, No. 1, pp. 7182, (2015) DOI: https://doi.org/10.1177/0269216314546712. http://www.ncbi.nlm.nih.gov/pubmed/25182656

[26] Li, L.; Glicksberg, B. S.; Radbill, B. D.; Dudley, J. T. Data-driven identification of risk factors of patient satisfaction at a large urban academic medical center. Plos One, Vol. 11, No. 5, pp. 118, (2016) DOI: 10.1371/journal.pone.0156076.

[27] Martin, D. Physical environment impacts patient experience. Health Facilities Management, Vol. 29, pp. 39-45, (2016) http://search.proquest.com/docview/1790066482?accountid=35812.

[28] Mendes, L.; de Jesus José, G. F. Influence of leadership on quality nursing care. International Journal of Health Care Quality Assurance, Vol. 27, pp. 439-50, (2014) DOI: https://doi.org/10.1108/IJHCQA-06-2013-0069

[29] Milutinović, D.; Simin, D.; Brkić, N.; Brkić, S. The patient satisfaction with nursing care quality: The psychometric study of the Serbian version of PSNCQ questionnaire. Scandinavian Journal of Caring Sciences, Vol. 2, pp. 598-606, (2012) DOI:10.1111/j.1471-6712.2012.00969.x

[30] Nashrath, M.; Akkadechanunt, T.; Chontawan, R. Perceived nursing service quality in a tertiary care hospital, Maldives. Nursing & Health Sciences. Vol. 13. pp. 495-501, (2011) DOI: https://doi.org/10.1111/j.1442-2018.2011.00648.x.

[31] National Database of Nursing Quality Indicator. About NDNQI. (2014) DOI: http://www.nursingquality.org/About-NDNQI

[32] Otani, K.; Herrmann, P. A.; Kurz, R. S. Improving patient satisfaction in hospital care setting. Health Services Management Research, Vol. 24, pp. 163-169, (2011) DOI: https://doi.org/10.1258/hsmr.2011.011008.

[33] Prakash, B. Patient satisfaction. Journal of Cutaneous and Aesthetic Surgery, Vol. 3, pp. 151-155, (2010) DOI: http://dx.doi.org/10.4103/0974-2077.74491

[34] Press Ganey Associates Inc. Improve care quality, prevent adverse events with deep nursing quality insights. (2016b) DOI: http://www.pressganey.com/solutions/clinical-quality/nursing-quality

[35] Richter, J. P.; McAlearney, A. S.; Pennell, M. L. Evaluating the effect of safety culture on error reporting: A comparison of managerial and staff perspectives. American Journal of Medical Quality, Vol. 30, pp. 550-558, (2015) DOI: https://doi.org/10.1177/1062860614544469.

[35] Sharma, A. What is ex-post facto research? Explain? (2012) DOI: http://www. preservearticles.com/2012030825859/what-is-ex-post-facto-research-explain

[37] A. C.; Simpson, K.; White, A. Pay for performance: Are hospitals becoming more efficient in improving their patient experience? Journal of Healthcare Management/American College of Healthcare Executives, 60, 268285, (2015).

[38] Shirley, E.; Josephson, G.; Sanders, J. Fundaments of patient satisfaction measurement. Physician Leadership Journal, Vol. 3, No. 1, 1217, (2016).

[39] Stanowski, A. C.; Simpson, K.; White, A. Pay for performance: Are hospitals becoming more efficient in improving their patient experience? Journal of Healthcare Management/American College of Healthcare Executives, Vol. 60, 268285, (2015).

[40] Taheri, M.; Mohammadi, M.; Amani, A.; Zahiri, R.; Mohammadbeigi, A. Family physician program in Iran, patients' satisfaction in a multicenter study. Pakistan Journal of Biological Sciences, Vol. 17, pp. 227-233, (2014) DOI: http://www.ncbi.nlm.nih.gov/pubmed/24783806.

[41] Teng, C.; Hsiao, F.; Chou, T. Nurse-perceived time pressure and patient-perceived care quality. Journal of Nursing Management, Vol. 18, 275284, (2010) DOI:10.1111/j.1365-2834.2010.01073.x.

[42] Vogt, P. W. Quantitative research methods for professionals. Allyn & Bacon. (2007).

[43] Waters, T. M.; Daniels, M. J.; Bazzoli, G. J.; Perencevich, E.; Dunton, N.; Staggs, V. S.; Shorr, R. L. Effect of Medicare's nonpayment for hospital-acquired conditions: Lessons for future policy. Journal of American Medical Association Internal Medicine, Vol. 175, pp. 347-354, (2015) DOI: https://doi.org/10.1001/jamainternmed.2014.5486.

[44] Wald, H.; Richard, A.; Dickson, V. V.; Capezuti, E. Chief nursing officers' perspectives on Medicare's hospital-acquired conditions non-payment policy: Implications for policy design and implementation. Implementation Science, Vol. 7, pp. 7884, (2012) http://dx.doi.org/10.1186/1748-5908-7-78.

[45] Wynn, J. D. The value of exceptional patient experience. North Carolina Medical Journal, Vol. 77, 290292, (2016) DOI:10.18043/ncm.77.4.290.

[46] Woldeyohanes, T. R.; Woldehaimanot, T. E.; Kerie, M. W.; Mengistie, M. A; Yesuf, E. A. Perceived patient satisfaction with in-patient services at Jimma University specialized hospital, Southwest Ethiopia. Bio Med Central Research Notes, Vol. 8, 285292, (2015) DOI: https://doi.org/10.1186/s13104-015-1179-8.

[47] Yancey, A. E. The relationship between patient-centered care (PCC) services and patient satisfaction scores (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Full Text. (3583301), 2013.