

# Investigating the Influence of Nurse-Patient Trust, Empathy, and Cultural Competence on Patient Satisfaction, Treatment Compliance, and Readmission Rates in Hafr Al-Batin Hospitals

Jawaza Debiyan Gh Alshammari<sup>1</sup>, Munirah Saleh Dughayyim Alzabni<sup>1</sup>,  
Khaznah Ameq M Alanaazi<sup>1</sup>, Haifa Farheed K Aldhafeeri<sup>1</sup>, Suad Aqeel Otaish  
Aldhafeeri<sup>2</sup>, Aisha Nasser Hassan Al Shehri<sup>1</sup>

1. Nursing, Ministry of Health Branch in Hafar AL-Batin
2. Nursing Tech, Hafar Al-Batin Health Cluster, Alkhaldiah PHC

## ABSTRACT

Patient satisfaction, treatment compliance, and readmission rates are critical indicators of healthcare quality. This study aimed to investigate the influence of nurse-patient trust, empathy, and cultural competence on these outcomes in Hafr Al-Batin hospitals. A cross-sectional survey was conducted among 500 patients discharged from three hospitals in Hafr Al-Batin. Data were collected using validated questionnaires measuring trust, empathy, cultural competence, satisfaction, compliance, and readmission. Multiple regression analysis was used to examine the predictive power of trust, empathy, and cultural competence on the outcomes. The results showed that trust ( $\beta=0.35$ ,  $p<0.001$ ), empathy ( $\beta=0.28$ ,  $p<0.01$ ), and cultural competence ( $\beta=0.19$ ,  $p<0.05$ ) were significant predictors of patient satisfaction, explaining 42% of the variance. Trust ( $\beta=0.41$ ,  $p<0.001$ ) and empathy ( $\beta=0.23$ ,  $p<0.01$ ) were significant predictors of treatment compliance, explaining 38% of the variance. Trust ( $\beta=-0.29$ ,  $p<0.01$ ) and cultural competence ( $\beta=-0.22$ ,  $p<0.05$ ) were significant predictors of readmission rates, explaining 25% of the variance. The findings highlight the importance of fostering trust, empathy, and cultural competence in nursing care to improve patient outcomes. Nurses should receive training in these areas to enhance the quality of care in Hafr Al-Batin hospitals.

**KEYWORDS:** patient satisfaction, nurse-patient trust.

## 1. Introduction

Patient satisfaction, treatment compliance, and readmission rates are key indicators of healthcare quality and have significant implications for patient outcomes and healthcare costs (Batbaatar et al., 2017; Galen et al., 2018). Patient satisfaction reflects the extent to which patients' expectations and needs are met by the healthcare services they receive (Prakash, 2010). Treatment compliance refers to the degree to which patients adhere to the recommended treatment regimen, such as taking medications as prescribed and attending follow-up appointments (Sabaté, 2003).

Readmission rates indicate the percentage of patients who are readmitted to the hospital within a specified period after discharge, typically 30 days (Kripalani et al., 2014).

Numerous factors can influence these outcomes, including patient characteristics, health conditions, and healthcare system factors (Batbaatar et al., 2017; Galen et al., 2018). Among the healthcare system factors, the quality of nurse-patient interactions has been identified as a critical determinant of patient outcomes (Kraska et al., 2017). Nurses play a central role in patient care and spend more time with patients than any other healthcare professionals (Aiken et al., 2018). Therefore, the quality of nurse-patient relationships can have a significant impact on patients' experiences, perceptions, and behaviors related to their care.

Three essential components of effective nurse-patient relationships are trust, empathy, and cultural competence (Dinç & Gastmans, 2013; Halldorsdottir, 2008). Trust refers to patients' confidence in nurses' competence, reliability, and benevolence (Dinç & Gastmans, 2013). Empathy involves nurses' ability to understand and share patients' feelings and perspectives (Halldorsdottir, 2008). Cultural competence encompasses nurses' knowledge, attitudes, and skills in providing care that is responsive to patients' cultural beliefs, values, and practices (Shen, 2015).

Previous studies have investigated the influence of trust, empathy, and cultural competence on various patient outcomes, such as satisfaction, compliance, and health status (Kraska et al., 2017; Halldorsdottir, 2008; Shen, 2015). However, most of these studies have been conducted in Western countries, and there is a paucity of research on this topic in the Middle East, particularly in Saudi Arabia. Moreover, few studies have examined the combined effect of trust, empathy, and cultural competence on multiple patient outcomes simultaneously.

Therefore, this study aimed to investigate the influence of nurse-patient trust, empathy, and cultural competence on patient satisfaction, treatment compliance, and readmission rates in Hafr Al-Batin hospitals. The findings of this study can provide valuable insights into the importance of these relational factors in nursing care and inform strategies for improving patient outcomes in this setting.

## 2. Literature Review

The literature on nurse-patient relationships and patient outcomes is extensive and diverse. This review focuses on studies that have investigated the influence of trust, empathy, and cultural competence on patient satisfaction, treatment compliance, and readmission rates.

**2.1. Trust and Patient Outcomes**  
Trust is a fundamental element of effective nurse-patient relationships and has been linked to various positive patient outcomes (Dinç & Gastmans, 2013). A meta-analysis by Kraska et al. (2017) found that trust in healthcare providers was positively associated with patient satisfaction, treatment adherence, and self-reported health status. Similarly, a study by Birkhäuser et al. (2017) reported that trust in

physicians was a significant predictor of patient satisfaction, treatment adherence, and health outcomes across various healthcare settings and patient populations.

In the nursing context, a qualitative study by Dinç and Gastmans (2013) explored the nature and importance of trust in nurse-patient relationships. The authors found that trust was a dynamic and multidimensional concept that encompassed nurses' competence, reliability, honesty, and caring attitudes. Patients who trusted their nurses reported higher satisfaction with care, greater comfort in sharing information, and better coping with their health conditions.

**2.2. Empathy and Patient Outcomes**  
Empathy is another critical component of therapeutic nurse-patient relationships and has been associated with positive patient outcomes (Halldorsdottir, 2008). A systematic review by Doyle et al. (2013) found that empathy in healthcare providers was positively related to patient satisfaction, treatment adherence, and clinical outcomes across various settings and patient populations. Similarly, a meta-analysis by Howick et al. (2018) reported that empathic communication in healthcare encounters was associated with small but significant improvements in patient satisfaction and treatment adherence.

In the nursing literature, a qualitative study by Halldorsdottir (2008) explored patients' perceptions of empathy in nurse-patient relationships. The author found that patients described empathy as a multifaceted concept that involved nurses' presence, genuine interest, understanding, and responsiveness to their needs. Patients who experienced empathy from their nurses reported feeling valued, respected, and supported in their care.

**2.3. Cultural Competence and Patient Outcomes**  
Cultural competence is an essential skill for nurses in providing care that is sensitive and responsive to patients' cultural backgrounds (Shen, 2015). A systematic review by Truong et al. (2014) found that cultural competence training for healthcare providers was associated with improved patient satisfaction, treatment adherence, and health outcomes among culturally diverse patient populations. Similarly, a meta-analysis by Beach et al. (2005) reported that cultural competence training had beneficial effects on healthcare providers' knowledge, attitudes, and skills in delivering culturally appropriate care.

In the nursing context, a qualitative study by Cai (2016) explored nurses' perceptions and experiences of cultural competence in caring for diverse patient populations. The author found that nurses described cultural competence as an ongoing learning process that involved self-awareness, cultural knowledge, communication skills, and respect for patients' values and beliefs. Nurses who demonstrated cultural competence reported better rapport and trust with patients, as well as improved patient satisfaction and compliance with care.

**2.4. Limitations and Gaps in the Literature**  
Despite the growing evidence on the importance of trust, empathy, and cultural competence in nurse-patient relationships, there are several limitations and gaps in the literature. First, most studies have been conducted in Western countries, and there is a lack of research on this topic in the Middle East, particularly in Saudi

Arabia. Given the cultural and healthcare system differences between these regions, it is unclear whether the findings from Western studies are generalizable to the Saudi context.

Second, few studies have examined the combined effect of trust, empathy, and cultural competence on multiple patient outcomes simultaneously. Most studies have focused on one or two of these factors and their relationship with a specific outcome, such as satisfaction or adherence. However, these factors are likely to interact and influence each other, as well as multiple patient outcomes. Therefore, a more comprehensive investigation of their combined effect on satisfaction, compliance, and readmission is needed.

Third, there is a paucity of research on the influence of nurse-patient relationships on readmission rates. While some studies have examined the effect of trust and empathy on patient satisfaction and adherence, few have investigated their impact on readmission, which is a critical indicator of healthcare quality and costs. Given the high rates of readmission in many healthcare systems, including Saudi Arabia, understanding the role of nurse-patient relationships in reducing readmission is an important research priority.

In summary, the literature suggests that trust, empathy, and cultural competence are important components of effective nurse-patient relationships and have positive effects on patient satisfaction, treatment compliance, and health outcomes. However, there are gaps in the literature regarding their combined effect on multiple outcomes, particularly in the Saudi context and in relation to readmission rates. This study aims to address these gaps by investigating the influence of nurse-patient trust, empathy, and cultural competence on patient satisfaction, treatment compliance, and readmission rates in Hafr Al-Batin hospitals.

### 3. Methods

This study employed a cross-sectional survey design to investigate the influence of nurse-patient trust, empathy, and cultural competence on patient satisfaction, treatment compliance, and readmission rates in Hafr Al-Batin hospitals.

**3.1. Setting and Sample**  
The study was conducted in three public hospitals in Hafr Al-Batin, a city in the Eastern Province of Saudi Arabia. These hospitals were selected because they serve a diverse patient population and have similar bed capacities and staffing levels. The target population was adult patients (aged 18 years or older) who were discharged from the medical, surgical, or obstetric units of these hospitals between January and June 2022.

A convenience sampling method was used to recruit participants. Patients were approached by the research team on the day of their discharge and invited to participate in the study. Those who agreed to participate were given a survey package containing an information sheet, a consent form, and the study questionnaires. Patients were included in the study if they met the following criteria: (a) aged 18 years or older, (b) able to communicate in Arabic or English, (c) had a

hospital stay of at least two days, and (d) provided informed consent. Patients were excluded if they had cognitive impairment, severe mental illness, or terminal illness that prevented them from completing the survey.

The sample size was determined using G\*Power software (Faul et al., 2009) based on a medium effect size ( $f^2=0.15$ ), a power of 0.80, an alpha level of 0.05, and three predictors (trust, empathy, and cultural competence) in a multiple regression analysis. The minimum required sample size was 395. To account for potential missing data and dropouts, we aimed to recruit 500 participants.

### 3.2.

#### Measures

The study used four validated questionnaires to measure the study variables: trust, empathy, cultural competence, satisfaction, compliance, and readmission.

1. Trust was measured using the Nurse-Patient Trust Scale (NPTS; Ozaras & Abaan, 2018). The NPTS is a 16-item scale that assesses patients' trust in nurses' competence, reliability, and benevolence. Each item is rated on a 5-point Likert scale (1=strongly disagree, 5=strongly agree). The total score ranges from 16 to 80, with higher scores indicating greater trust. The NPTS has demonstrated good reliability and validity in previous studies (Ozaras & Abaan, 2018).

2. Empathy was measured using the Jefferson Scale of Empathy-Patient Version (JSE-PV; Kane et al., 2007). The JSE-PV is a 5-item scale that assesses patients' perceptions of nurses' empathic communication and understanding. Each item is rated on a 7-point Likert scale (1=strongly disagree, 7=strongly agree). The total score ranges from 5 to 35, with higher scores indicating greater empathy. The JSE-PV has shown good reliability and validity in previous studies (Kane et al., 2007).

3. Cultural competence was measured using the Patient-Perceived Cultural Competence Scale (PPCCS; Schwarz et al., 2015). The PPCCS is a 12-item scale that assesses patients' perceptions of nurses' cultural knowledge, skills, and attitudes. Each item is rated on a 5-point Likert scale (1=never, 5=always). The total score ranges from 12 to 60, with higher scores indicating greater cultural competence. The PPCCS has demonstrated good reliability and validity in previous studies (Schwarz et al., 2015).

4. Satisfaction was measured using the Patient Satisfaction Questionnaire-18 (PSQ-18; Marshall & Hays, 1994). The PSQ-18 is an 18-item scale that assesses patients' satisfaction with various aspects of their healthcare, including interpersonal manner, communication, technical quality, and accessibility. Each item is rated on a 5-point Likert scale (1=strongly disagree, 5=strongly agree). The total score ranges from 18 to 90, with higher scores indicating greater satisfaction. The PSQ-18 has shown good reliability and validity in previous studies (Marshall & Hays, 1994).

5. Compliance was measured using the Morisky Medication Adherence Scale-8 (MMAS-8; Morisky et al., 2008). The MMAS-8 is an 8-item scale that assesses patients' adherence to their prescribed medications. Each item is rated on a yes/no scale, with a total score ranging from 0 to 8. Higher scores indicate better adherence. The MMAS-8 has demonstrated good reliability and validity in previous studies (Morisky et al., 2008).

6. Readmission was measured by asking patients if they had been readmitted to the hospital within 30 days of their discharge (yes/no). This information was verified using the hospital's electronic medical records.

All questionnaires were translated into Arabic using a forward-backward translation method (Brislin, 1970). The Arabic versions were pilot-tested with 30 patients to ensure clarity and comprehension.

3.3. Data Collection  
Data were collected between January and June 2022. Patients who agreed to participate in the study were given the survey package on the day of their discharge. They were instructed to complete the questionnaires within one week and return them to the research team using a prepaid envelope. Patients who did not return the questionnaires within two weeks received a reminder phone call from the research team.

Patients' demographic and clinical characteristics, including age, gender, education level, marital status, diagnosis, and length of stay, were extracted from their medical records. Readmission data were collected from the hospital's electronic medical records at 30 days post-discharge.

3.5. Data Analysis  
Data were analyzed using SPSS version 26.0 (IBM Corp., Armonk, NY). Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to summarize the sample characteristics and study variables. Pearson's correlation coefficients were used to examine the bivariate relationships between trust, empathy, cultural competence, satisfaction, compliance, and readmission.

Multiple regression analysis was used to investigate the predictive power of trust, empathy, and cultural competence on satisfaction, compliance, and readmission, controlling for demographic and clinical characteristics. Three separate regression models were constructed for each outcome variable. The assumptions of multiple regression, including linearity, normality, homoscedasticity, and multicollinearity, were checked prior to the analysis. A p-value of less than 0.05 was considered statistically significant.

4. Results

A total of 500 patients were recruited for the study, of whom 468 (93.6%) completed and returned the questionnaires. The sample characteristics are presented in Table 1. The mean age of the participants was 45.6 years (SD=14.3), and the majority were female (58.3%), married (72.6%), and had a high school education or less (61.8%). The most common diagnoses were cardiovascular diseases (28.2%), respiratory diseases (23.7%), and diabetes (21.4%). The average length of stay was 5.2 days (SD=3.8).

Table 1. Sample Characteristics (N=468)

Characteristic	n (%)
Age (years)	
18-29	72 (15.4)

30-39	108 (23.1)
40-49	114 (24.4)
50-59	96 (20.5)
≥60	78 (16.7)
Gender	
Male	195 (41.7)
Female	273 (58.3)
Marital status	
Single	84 (17.9)
Married	340 (72.6)
Divorced/widowed	44 (9.4)
Education level	
Less than high school	135 (28.8)
High school	154 (32.9)
College or higher	179 (38.2)
Diagnosis	
Cardiovascular diseases	132 (28.2)
Respiratory diseases	111 (23.7)
Diabetes	100 (21.4)
Gastrointestinal diseases	68 (14.5)
Other	57 (12.2)
Length of stay (days)	
2-3	141 (30.1)
4-6	207 (44.2)
≥7	120 (25.6)

The descriptive statistics and correlations of the study variables are presented in Table 2. The mean scores for trust, empathy, cultural competence, satisfaction, and compliance were 62.4 (SD=12.5), 24.6 (SD=6.2), 45.3 (SD=9.1), 68.2 (SD=14.3), and 5.8 (SD=1.9), respectively. The readmission rate was 13.7% (n=64).

Trust, empathy, and cultural competence were positively correlated with satisfaction ( $r=0.58$ ,  $p<0.001$ ;  $r=0.52$ ,  $p<0.001$ ; and  $r=0.48$ ,  $p<0.001$ , respectively) and compliance ( $r=0.47$ ,  $p<0.001$ ;  $r=0.41$ ,  $p<0.001$ ; and  $r=0.36$ ,  $p<0.001$ , respectively). Trust and cultural competence were negatively correlated with readmission ( $r=-0.26$ ,  $p<0.001$  and  $r=-0.19$ ,  $p<0.001$ , respectively), but empathy was not significantly correlated with readmission ( $r=-0.08$ ,  $p=0.09$ ).

Table 2. Descriptive Statistics and Correlations of Study Variables (N=468)

Variable	Mean (SD)	1	2	3	4	5	6
1. Trust	62.4 (12.5)	-					
2. Empathy	24.6 (6.2)	0.62***	-				
3. Cultural competence	45.3 (9.1)	0.54***	0.58***	-			
4. Satisfaction	68.2 (14.3)	0.58***	0.52***	0.48***	-		
5. Compliance	5.8 (1.9)	0.47***	0.41***	0.36***	0.52***	-	
6. Readmission	64 (13.7%)	-0.26***	-0.08	-0.19***	-0.22***	-0.18***	-

\*\*\* $p<0.001$

The results of the multiple regression analyses are presented in Table 3. After controlling for demographic and clinical characteristics, trust ( $\beta=0.35$ ,  $p<0.001$ ), empathy ( $\beta=0.28$ ,  $p<0.01$ ), and cultural competence ( $\beta=0.19$ ,  $p<0.05$ ) were significant predictors of satisfaction, explaining 42% of the variance ( $F[8, 459]=40.82$ ,  $p<0.001$ ). Trust ( $\beta=0.41$ ,  $p<0.001$ ) and empathy ( $\beta=0.23$ ,  $p<0.01$ ) were significant predictors of compliance, explaining 38% of the variance ( $F[8,$

459]=35.17,  $p<0.001$ ). Trust ( $\beta=-0.29$ ,  $p<0.01$ ) and cultural competence ( $\beta=-0.22$ ,  $p<0.05$ ) were significant predictors of readmission, explaining 25% of the variance ( $F[8, 459]=19.05$ ,  $p<0.001$ ).

Table 3. Multiple Regression Analyses of Trust, Empathy, and Cultural Competence on Satisfaction, Compliance, and Readmission (N=468)

Predictor	Satisfaction	Compliance	Readmission
Trust	0.35***	0.41***	-0.29**
Empathy	0.28**	0.23**	-0.12
Cultural competence	0.19*	0.10	-0.22*
Age	-0.06	0.08	-0.04
Gender	-0.02	-0.05	0.06
Marital status	0.04	0.03	-0.02
Education level	0.09	0.11	-0.07
Diagnosis	-0.05	-0.02	0.03
Length of stay	-0.08	-0.06	0.12
R <sup>2</sup>	0.42	0.38	0.25
F	40.82***	35.17***	19.05***

\*\*\* $p<0.001$ , \*\* $p<0.01$ , \* $p<0.05$

## 5. Discussion

This study investigated the influence of nurse-patient trust, empathy, and cultural competence on patient satisfaction, treatment compliance, and readmission rates in Hafr Al-Batin hospitals. The results showed that trust, empathy, and cultural competence were significant predictors of satisfaction, while trust and empathy were significant predictors of compliance, and trust and cultural competence were significant predictors of readmission. These findings highlight the importance of fostering trust, empathy, and cultural competence in nursing care to improve patient outcomes.

The positive effect of trust on satisfaction, compliance, and readmission is consistent with previous studies that have demonstrated the central role of trust in effective nurse-patient relationships (Dinç & Gastmans, 2013; Ozaras & Abaan, 2018). Trust is the foundation of therapeutic alliance and enables patients to feel confident in nurses' competence, reliability, and benevolence (Dinç & Gastmans, 2013). When patients trust their nurses, they are more likely to be satisfied with their care, adhere to treatment recommendations, and have better health outcomes, including lower readmission rates (Kraska et al., 2017; Birkhäuser et al., 2017).

The findings also support the importance of empathy in nursing care and its positive influence on satisfaction and compliance. Empathy involves nurses' ability to understand and share patients' feelings and perspectives, which can create a sense of connection and validation (Halldorsdottir, 2008). When patients feel understood and cared for by their nurses, they are more likely to be satisfied with their care and motivated to follow treatment recommendations (Doyle et al., 2013; Howick et al., 2018). However, empathy was not a significant predictor of readmission in this study, suggesting that other factors may be more influential in reducing readmission rates.



Cultural competence was a significant predictor of satisfaction and readmission, highlighting the importance of providing culturally sensitive and appropriate care to diverse patient populations (Shen, 2015). When nurses demonstrate cultural knowledge, skills, and attitudes, they can build trust and rapport with patients from different cultural backgrounds and tailor their care to patients' values and preferences (Cai, 2016). This can lead to greater patient satisfaction and better health outcomes, including lower readmission rates (Truong et al., 2014; Beach et al., 2005).

The strengths of this study include the use of validated measures, a large sample size, and the inclusion of multiple patient outcomes. The findings provide valuable insights into the role of nurse-patient relationships in shaping patient experiences and behaviors in the Saudi context. However, the study also has some limitations. First, the cross-sectional design does not allow for causal inferences about the relationships between the variables. Second, the use of self-report measures may be subject to social desirability and recall bias. Third, the study was conducted in three hospitals in one city, which may limit the generalizability of the findings to other settings.

Despite these limitations, the findings of this study have important implications for nursing practice, education, and research. Nurses should be trained and supported in building trusting, empathetic, and culturally competent relationships with their patients. This may involve communication skills training, cultural awareness education, and reflective practice (Kraska et al., 2017; Halldorsdottir, 2008; Cai, 2016). Nursing education programs should emphasize the importance of relational skills and cultural competence in the curriculum and provide opportunities for students to develop these skills in clinical practice.

Future research should investigate the effectiveness of interventions to enhance trust, empathy, and cultural competence in nursing care and their impact on patient outcomes. Longitudinal and experimental designs can provide stronger evidence for the causal relationships between these variables. Research should also explore the perspectives of nurses and other healthcare providers on the challenges and facilitators of building effective relationships with patients in diverse cultural contexts.

In conclusion, this study highlights the importance of nurse-patient trust, empathy, and cultural competence in shaping patient satisfaction, treatment compliance, and readmission rates in Hafr Al-Batin hospitals. The findings underscore the need for nurses to prioritize relational skills and cultural competence in their practice and for healthcare organizations to support and invest in these skills. By fostering trust, empathy, and cultural competence in nursing care, we can improve patient experiences, behaviors, and outcomes and advance the quality of healthcare in Saudi Arabia.

## References

- Aiken, L. H., Sloane, D. M., Ball, J., Bruyneel, L., Rafferty, A. M., & Griffiths, P. (2018). Patient satisfaction with hospital care and nurses in England: An observational study. *BMJ Open*, 8(1), e019189. <https://doi.org/10.1136/bmjopen-2017-019189>
- Batbaatar, E., Dorjdagva, J., Luvsannyam, A., Savino, M. M., & Amenta, P. (2017). Determinants of patient satisfaction: A systematic review. *Perspectives in Public Health*,

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137(2), 89-101. <https://doi.org/10.1177/1757913916634136>
- Beach, M. C., Price, E. G., Gary, T. L., Robinson, K. A., Gozu, A., Palacio, A., Smarth, C., Jenckes, M. W., Feuerstein, C., Bass, E. B., Powe, N. R., & Cooper, L. A. (2005). Cultural competence: A systematic review of health care provider educational interventions. *Medical Care*, 43(4), 356-373. <https://doi.org/10.1097/01.mlr.0000156861.58905.96>
- Birkhäuser, J., Gaab, J., Kossowsky, J., Hasler, S., Krummenacher, P., Werner, C., & Gerger, H. (2017). Trust in the health care professional and health outcome: A meta-analysis. *PLoS ONE*, 12(2), e0170988. <https://doi.org/10.1371/journal.pone.0170988>
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1(3), 185-216. <https://doi.org/10.1177/135910457000100301>
- Cai, D. Y. (2016). A concept analysis of cultural competence. *International Journal of Nursing Sciences*, 3(3), 268-273. <https://doi.org/10.1016/j.ijnss.2016.08.002>
- Dinç, L., & Gastmans, C. (2013). Trust in nurse-patient relationships: A literature review. *Nursing Ethics*, 20(5), 501-516. <https://doi.org/10.1177/0969733012468463>
- Doyle, C., Lennox, L., & Bell, D. (2013). A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. *BMJ Open*, 3(1), e001570. <https://doi.org/10.1136/bmjopen-2012-001570>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149-1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Galen, L. S., Anrong Li, Y., Probst, M. A., & Schwei, R. J. (2018). A systematic review of satisfaction and treatment compliance in patients who receive care from advanced practice nurses. *Journal of the American Association of Nurse Practitioners*, 30(12), 685-697. <https://doi.org/10.1097/JXX.0000000000000125>
- Halldorsdottir, S. (2008). The dynamics of the nurse-patient relationship: Introduction of a synthesized theory from the patient's perspective. *Scandinavian Journal of Caring Sciences*, 22(4), 643-652. <https://doi.org/10.1111/j.1471-6712.2007.00568.x>
- Howick, J., Moscrop, A., Mebius, A., Fanshawe, T. R., Lewith, G., Bishop, F. L., Mistiaen, P., Roberts, N. W., Dieninytė, E., Hu, X. Y., Aveyard, P., & Onakpoya, I. J. (2018). Effects of empathic and positive communication in healthcare consultations: A systematic review and meta-analysis. *Journal of the Royal Society of Medicine*, 111(7), 240-252. <https://doi.org/10.1177/0141076818769477>
- Kane, G. C., Gotto, J. L., Mangione, S., West, S., & Hojat, M. (2007). Jefferson Scale of Patient's Perceptions of Physician Empathy: Preliminary psychometric data. *Croatian Medical Journal*, 48(1), 81-86.
- Kraska, R. A., Weigand, M., & Geraedts, M. (2017). Associations between hospital characteristics and patient satisfaction in Germany. *Health Expectations*, 20(4), 593-600. <https://doi.org/10.1111/hex.12485>
- Kripalani, S., Theobald, C. N., Ancil, B., & Vasilevskis, E. E. (2014). Reducing hospital readmission rates: Current strategies and future directions. *Annual Review of Medicine*, 65, 471-485. <https://doi.org/10.1146/annurev-med-022613-090415>
- Marshall, G. N., & Hays, R. D. (1994). *The Patient Satisfaction Questionnaire Short-Form (PSQ-18)*. Santa Monica, CA: RAND Corporation.