Journal of Nursing & Patient Care

Brief Report A SCITECHNOL JOURNAL

Physicians' and Nurses' Perceptions of the Patient Safety Climate: Same Goals, Different Views

Ilya Binkin[1], Yelena Chechoulin[2], Karin Lee Ovadia[3], Ilya Kagan[4] and Violetta Rozani[4*]

[1]Operating Room, Hasharon Hospital, Rabin Medical Center, Clalit Health Services, Tel Aviv, Israel

[2]Gastroenterology Institute, Hasharon Hospital, Rabin Medical Center, Clalit Health Services, Tel Aviv, Israel

[3]Delivery Room, Shamir Medical Center, Tel Aviv, Israel

[4]Department of Nursing, Steyer School of Health Professions, Sackler School of Medicine, Tel Aviv University, Tel Aviv, Israel

***Corresponding author:** Violetta Rozani, The Stanley Steyer School of Health Professions, Department of Nursing, Tel Aviv University, Tel Aviv, Israel, E-mail: koifmanv@tauex.tau.ac.il

Received date: August 20, 2021; **Accepted date:** September 9, 2021; **Published date:** September 17, 2021

Abstract

Background: Hospitals have promoted efforts to improve safety and quality of care by fostering a better understanding of how the patient safety climate differs among health professions.

Purpose: This study aimed to explore and compare physicians' and nurses' perceptions and attitudes toward PSC on three levels: organizational, ward, and individual performance.

Methods: A cross-sectional study of 79 hospital personnel (physicians=39 and nurses=40) working in the operating theater and gastroenterology unit was conducted in a large hospital in Israel. Data were collected by a validated self-administered structured questionnaire. Results: The mean age of physicians was 46.5 ± 12.0 years, and of nurses 45.5 ± 11.4 years; both were full-time employees, and the majorities were born in Israel (55.0% of physicians and 51.3% of nurses). The mean score for overall patient safety climate was significantly lower among physicians compared with nurses. Moreover, at both the organizational and ward levels, physicians rated the patient safety climate significantly lower than did the nurses. However, at the individual performance level, physicians rated the patient safety climate slightly higher than did the nurses.

Conclusion: Both physicians and nurses should improve their perceptions of patient safety climate by means of educational and consecutive training programs based on their most pressing needs.

Keywords: Patient safety; Organizational climate; Inter-professional differences

Introduction

Assessment of Patient Safety Climate (PSC) is an essential component of many hospitals' ongoing efforts to improve patient safety and quality of care [1-3]. PSC is usually defined as workers' perceptions of safety policies, procedures, and practices that aim to reduce patient harm caused by the care process within an organization [4]. Previous studies have indicated that PSC is a complex combination of institutional policies, procedures, and decisions, with individual values, practices, and beliefs [4,2], and consists of three main dimensions: organizational, work unit, and individual [2]. The organizational level of PSC is related to senior managers' engagement in patient safety, organizational resources for patient safety, the overall emphasis on patient safety at a facility, and whether or not patients feel that safety is improving at the facility. PSC in the work unit, related to pro safety social pressures, focuses on formal and more explicit ways in which concern for patient safety guides staff behavior. Moreover, the individual level of performance refers to whether the staff had witnessed or been directly involved in unsafe care [5].

Several studies have suggested that variations in PSC may be related to the complexity of the work performed in different wards, thus focusing on measuring the ward's climate, with higher levels of intrinsic risk (*i.e.,* operating theater, intensive care unit, emergency department, etc.) [1,2,6,7]. Other studies measured the perception of PSC among personnel by job type, reporting controversial findings [8,5,9,10,3,11]. The majority of studies found that physicians demonstrated more positive attitudes of PSC than did nurses. These differences may be related to the staff's demographic characteristics, knowledge, culture differences, education, expectations, and mood [12,7].

Hence, this study aimed to compare differences in the perception of and attitudes toward PSC among physicians and nurses working in intrinsically hazardous wards – an Operating Theater (OT) and a Gastroenterology Unit (GU) in a large public hospital in Israel. Specifically, we examined the differences between (1) Job types, *i.e.,* who (physicians or nurses) gave higher scores across the organizational, ward, and individual PSC levels: (2) Wards, *i.e.*, in which ward (OT or GU) the staff perceived PSC more positively.

Methods

Sample

A cross-sectional study using a convenience sample of 79 hospital staff (physicians=40 and nurses=39), conducted at a medical center in Israel. All the participants employed in the OT or the GU. Retrospective power analysis for the sample size of this study was calculated (using Compare 2 module- version 3.83; of WinPepi-version 11.63) for two-sided mid-p-values alpha was set at 0.05. These calculations showed that our study's statistical power is high, ranging from 81.6% to 89.9% for detecting absolute differences (of 0.45 or more) between physicians and nurses in the organizational, ward, and individual means of PSC.

Procedure

The data was collected using a validated self-administered structured questionnaire. All participants voluntarily signed an informed consent form and then answered questions about their

demographic characteristics and their perceptions of and attitudes toward PSC.

PSC was measured by a previously validated Hebrew version [13] of the questionnaire with 23 items divided into three sections, which examined PSC at the organizational level (11 items); ward level (5 items), and individual performance level (7 items). Respondents were asked to score their answers on a five-point likert scale ranging from one (definitely wrong) to five (definitely true). The scores for organizational, ward, and individual PSC levels were represented by the mean. The analysis showed that all three sections of the questionnaire had high internal consistency (Cronbach's α coefficients were 0.84, 0.85, and 0.76, respectively).

Statistical analyses

Descriptive statistical analyses were performed to describe the general characteristics of the research population. Pearson correlation coefficients were computed to determine the relationship between organizational, ward, and individual performance of PSC. T-tests for independent samples were used to determine differences in mean values of PSC between physicians and nurses and between wards. The level of significance was set at a p-value of 0.05. The Statistical Package for the Social Sciences version 23 (SPSS Inc., Chicago, Illinois) was used for all data analyses.

Ethics

This study was approved by the Institutional Review Board of the University (Helsinki committee). Informed consent was received from all participants, who confirmed that their participation in the survey was voluntary. The data was analyzed anonymously.

Results

The general characteristics of the research population by job type are presented in Table 1.

	Physicians (n=40)	Nurses (n=39)
Age (years)		
Min-max	25-65	26-64
Mean (SD)	46.5 (12.0)	45.5 (11.4)
Median (IQR)	46.5 (35.0-57.7)	43.0 (35.0-56.0)
Sex N (%)		
Men	27 (67.3)	8 (20.5)
Women	13 (32.5)	31 (79.5)
Origin N (%)		
Israel	22 (55.0)	20 (51.3)
Former soviet union	12 (30.0)	13 (33.3)
Other	6 (15.0)	6 (15.4)
Length of work experience (years)		
Min-max	1.0-40.0	2.0-40.0
Mean (SD)	19.7 (13.3)	22.1 (11.4)
Median (IQR)	20.0 (8.25-31.5)	25.0 (14.0-31.0)
Scope of employment N (%)		
75%-90%	3 (7.5)	3.0 (7.7)
100%	32 (92.5)	36.0 (92.3)
Work unit N (%)		
Operating theater	31 (59.6)	21 (40.4)
Gastroenterology unit	8 (29.6)	19 (70.4)

Table 1: Sociodemographic characteristics of the research population by job type.

Both physicians and nurses exhibited similar baseline characteristics regarding the age, scope of employment and place of birth. However, physicians had a slightly lower length of work experience than did nurses [M=19.7 (± 13.3) years vs. M=22.1 (± 11.4); ns].

We found significant positive correlations between all three levels of PSC: organizational and ward (r=.680; p<.001); organizational and individual (r=.289; p=.01); and ward and individual (r=.391; p<.001). The mean overall PSC score was significantly (p=.020) lower among physicians (M=3.21 ± 0.39) than among nurses (M=3.41 ± 0.37) (Table 2).

Patient safety climate levels	Physicians		Nurses			
	N=40		N=39			
	Mean	SD	Mean	SD	t	*p*
Overall	3.21	0.39	3.41	0.37	2.36	.02
Organizational	3.46	0.62	3.8	0.61	2.46	.016
Ward	3.71	0.71	4.28	0.57	3.88	<.001
Individual	2.46	0.65	2.15	0.73	-1.93	.054

Table 2: Means and Standard Deviations (SD) of patient safety climate, by job type (N=79).

Moreover, at both the organizational and ward levels, physicians rated PSC significantly lower than did nurses (M=3.45 *vs.* M=3.80; p=.016 for organizational level; M=3.71 *vs.* M= 4.28; p<.001 for ward level). On the other hand, at the individual performance level, physicians rated PSC slightly higher than did nurses (M=2.46 *vs.* M=2.15; p=.057). No significant differences were found in the mean values of PSC on all three levels between the OT and the GU.

Age, sex, origin, job type, and length of work experience were not significantly associated with all PSC levels among physicians or nurses.

Discussion

This study compared the differences between perceptions and attitudes of PSC by job type at three PSC levels: organizational, ward, and individual performance. We reported here three essential findings. First, that physicians rated their perceptions of and attitudes toward PSC significantly lower than did nurses as measured by the overall PSC score and specifically at both organizational and ward levels. However, at the individual performance level, physicians rated PSC slightly higher than did nurses. Our findings are in line with other studies that found significant differences between physicians and nurses regarding their percipience on PSC [2,10,3,11]. However, most of the studies found that physicians rated PSC higher than did nurses. Hence, our study provides additional research support for this controversial relationship between work type and PSC scoring and also offers further insight into these differences, emphasizing that they may vary across all PSC levels between physicians and nurses.

Second, we found no differences between OT and GU regarding PSC scoring. This is not a surprising finding as both wards are considered intrinsically hazardous work units that involve risky activities at baseline [2,3]. Several studies have reported that PSC scores vary across different work units, with less safe climates in OT, critical care, and emergency departments compared with surgical and medical inpatient areas [2,7]. Although previous studies focused on examining unit-specific PSC with high levels of intrinsic risk, further research concerning the PSC of other units, such as the pediatric, internal medicine, and nursing homes, is highly needed [9,10].

Finally, we found a strong significant positive association between organizational, ward, and individual performance levels of PSC. This finding calls for hospital managers to expend great efforts in improving PSC on all three levels, thus ensuring that by improving the organizational climate they may also improve ward and individual safety climates.

Some limitations of this study should be recognized. First, the data was collected by self-report, which might involve recall or report bias. Second, because this study was cross-sectional using a convenience sample, we are aware of the potential for selection bias. Finally, other dimensions associated with PSC, such as leadership, burnout, job satisfaction, team communication, etc., were not examined in this study and should be considered in the future.

Conclusion

Based on the results of our study and existing literature, comparisons of PSC between physicians and nurses have shown differences on all three levels of PSC. Hospital and ward managers should expend great efforts in improving PSC. Although we found that physicians rated organizational, and ward PSC as less safe than did nurses, we recommend that both physicians and nurses improve their perceptions regarding PSC by educational and consecutive training programs based on their most pressing needs. Future research should continue to focus on the inter-professional differences, in various health care organizations and work units, examining other dimensions associated with PSC (e.g., leadership, burnout, job satisfaction, team communication) and whether these dimensions increase PSC.

References

1. Schwendimann R, Zimmermann N, Küng K, Ausserhofer D, Sexton B (2013) Variation in safety culture dimensions within and between US and Swiss Hospital Units: an exploratory study. BMJ Qual Saf 22: 32–41.
2. Singer SJ, Gaba DM, Falwell A, Lin S, Hayes J, et al. (2009) Patient safety climate in 92 US hospitals: differences by work area and discipline. Medical Care 47: 23–31.
3. Zhou P, Bundorf MK, Gu J, He X, Xue D (2015) Survey on patient safety climate in public hospitals in China. BMC Health Serv Res 15.
4. Alsalem G, Bowie P, Morrison J (2018) Assessing safety climate in acute hospital settings: a systematic review of the adequacy of the psychometric properties of survey measurement tools. BMC Health Serv Res 18: 353.

5. Singer S, Lin S, Falwell A, Gaba D, Baker L (2009) Relationship of safety climate and safety performance in hospitals. Health Serv Res 44: 399–421.
6. Tarling M, Jones A, Murrells T, McCutcheon H (2017) Comparing safety climate for nurses working in operating theatres, critical care and ward areas in the UK: a mixed methods study. BMJ Open 7.
7. Singer S, Meterko M, Baker L, Gaba D, Falwell A, et al. (2007) Workforce perceptions of hospital safety culture: development and validation of the patient safety climate in healthcare organizations survey.Health Serv Res 42.
8. Göras C, Unbeck M, Nilsson U, Ehrenberg A (2017) Interprofessional team assessments of the patient safety climate in Swedish operating rooms: a cross-sectional survey. BMJ Open 7: e015607.
9. Wagner A, Rieger MA, Manser T, Sturm H, Hardt J, et al. (2019) Healthcare professionals' perspectives on working conditions, leadership, and safety climate: a cross-sectional study. BMC Health Serv. Res 19: 1–14.
10. Zhou P, Bai F, Tang H, Bai J, Li M, et al. (2018) Patient safety climate in general public hospitals in China: Differences associated with department and job type based on a cross-sectional survey. BMJ Open 8.
11. Zhu J (2019) Measurement equivalence of patient safety climate in Chinese hospitals: can we compare across physicians and nurses? Int. J. Qual. Health Care 31: 411–418.
12. Brasaite I, Kaunonen M, Martinkenas A, Suominen T (2016) Health care professionals â€TM attitudes regarding patient safety: cross-sectional survey. BMC Research Notes 9: 177.
13. Kagan I, Porat N, Barnoy S (2019) The quality and safety culture in general hospitals: patients', physicians' and nurses' evaluation of its effect on patient satisfaction. Int J Qual Health Care 31: 261–268.