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Nurses' Attitude towards Patient Safety Culture in Operation Theatre: A Cross Sectional Study

Natwarlal Patidar[1], Deepak Sethi[2]

[1]PhD Scholar, SNSR, Sharda University India

[2]Professor, SNSR, Sharda University India

Abstract: ***Background: The surgical safety of the patient is a major health concern for patients undergoing surgeries. The patient safety culture and incidences of adverse effects depend upon the attitude and insights of surgical team members. Hence, the present study was conducted to assess the attitude toward patient safety culture among nursing officers working in Operation Theatre. Material and methods: This cross-sectional study was conducted at AIIMS, Jodhpur, a tertiary care teaching hospital in western Rajasthan from March 2022 to June 2022. The sample size was 140 nurses working in elective and emergency OT. A socio-demographic profile sheet and Safety Attitude Questionnaire (SAQ) were used to collect the data. Descriptive and inferential statistics were used for data analysis. Results: In this study, the mean age of the participants was 29.35 years and 75.7% were males. The results revealed that the highest mean value of the positive attitude towards the different dimensions of the patient safety culture was obtained in the dimension of perception of management (Mean±SD;41.38±6.66), followed by safety climate (Mean±SD;28.29±4.17). A significant association was also found between age and education with overall scores of patient safety culture domain at a p-value of <0.05. Conclusion: In this study, it is identified that there is a need of effective intervention to improve teamwork climate, job satisfaction, and stress recognition among operating room nurses. Recognising such specific dimensions of patient safety could provide significant benefits for further studies. Furthermore, ensuring work ethics to set a stress free work climate is an important part of strategies for enhancing patient safety culture. No Patient or Public Contribution; No patients, service users, care-givers or members of the public were involved in this study during conduct of the study, analysis or interpretation of the data.***

Keywords: Nurses attitude, surgical safety, Operation Theater, Cross-sectional study

1. Introduction

The surgical safety of the patient is a major health concern for patients undergoing surgeries. It is estimated that about 10% of hospitalized patients suffer from unforeseen incidences or adverse events resulting due to carelessness of health personnel, leading to unexpected life-threatening undesirable effects on the surgical outcomes or even causing mortality.[1] One of the cause in 10 leading cause of disability and death in high-income country is unsafe healthcare practices that lead to adverse events in hospitalization period. Furthermore, One in every 10 patients gets some kind of harm during their hospital stay and most of the time these adverse event that causes harm to the patients is usually preventable.[2] As per the WHO report, about 134 million adverse events during the hospitalization are observed in low and middle-income countries every year which leads to 2.6 million deaths in these countries due to unsafe healthcare practices. It is also observed that most of these adverse events are related to medicine, prescriptions, and diagnosis.[3]

It is always essential to create a practice to identify the errors whether it is due to a personal failure or system centred with multiple factors that can be improved. Developing a system-centred error model in clinical practice is a good initiative that requires a safety attitude culture among healthcare personnel.[4] It is not always that adverse events are due to individual failure or negligence, but may be due to the result of multiple other factors that could have been improved to prevent errors.[5]A positive attitude towards patient safety among clinical nurses can result in active recognition of adverse events and clinical errors in healthcare setup. Similarly, promoting a safety culture in the surgical field can contribute to health system stability and reduce health-care costs.[6]

2. Background

Safety culture can be maintained only when doctors and nurses have positive attitude related to the dimensions of patient safety culture such as teamwork, safety environment, job satisfaction, stress identification, and management perception.[7] Safety Attitude Questionnaire (SAQ) assessment is presumed to be the most efficient standard tool to evaluate the effectiveness of patient safety culture which is validated and used very commonly in many studies for this purpose. The SAQ has also been adapted for use in various settings such as intensive care units, ambulatory clinics, and ORs.[8]

Perioperative team workers are mutually dependent on the specific professional skills of everyone. The key to enhancing team performance is effective communication between team members which can ultimately reduce the risk of surgical errors and also increase patient safety.[9]Nurses working in OTs play an important role in facilitating surgical performance and collaborating with surgeons to increase the chances of a good outcome. A prompt advanced preparation for any unforeseen situation or surgical error that may happen during the surgical procedure is the key for the operation room scrub nurse to gain control during surgery.[10] Operation room nurse is an accountable personnel for aseptic, equipment, contamination, and safe handling of all biological samples collected in the operation room during any procedure. [11] Nevertheless, all of these goals can be achieved by having a positive attitude toward the safety culture. Hence, the present study was conducted to assess

the attitude towards patient safety culture among nursing officers working in OT.

3. Objectives of this Study

1) To assess Patient safety attitude in Operating Room Nurses.
2) To find association between demographic variables and patient safety attitude in Operating Room Nurses.

4. Material and Methods

The Research approach for this study was Quantitative research approach with Cross sectional survey study design. Study setting was operating rooms at All India Institute of Medical Sciences, Jodhpur (India). Consecutive sampling technique was used to select participants. The sample size was determined to be 140 OT nurses from population of 220 nurses working in all Operation Theaters with confidence of interval 5% (0.05). Research work carried out from March 2022 to June 2022.

Data Collection Tool

Socio-Demographic Profile Sheet-It was a self-structured tool prepared to collect baseline information of the participants, containing four items such as age, gender, educational status, and years of working experience.

Safety Attitude questionnaire (SAQ)-It was a standardized tool to assess operating room nurses' attitude toward the surgical safety of patients and improving the subsequent patient outcomes. It is a five-point Likert scale (5=Strongly Agree, 4=Agree, 3=Neutral, 2=Strongly Disagree, 1=Disagree). Each item was scored by converting a 100-point scale, as 1=zero, 2= 25, 3=50, 4=75, and 5=100. The summed score of each dimension was divided by the number of the items in that dimension and a score range of 0-100 of new variable is obtained. A positive attitude is indicated with a mean score ≥75 for a particular dimension. Cronbach's alpha values were calculated to be greater than 0.7 for all items in the SAQ.

Data Collection – Data collected in a period of two months (April 2022 to May 2022)

Ethical Consideration

The institutional research and ethics committee granted permission after submitting proposal. After providing participant information sheet to participants, informed consent was also obtained from the participants.

Data Analysis

The Statistical Package for Social Sciences (SPSS) version 19 was used to analyse the results. Descriptive and inferential statistics were used to analyse the data. Continuous variables were represented by the Mean and Standard Deviation, while categorical variables were represented by the frequency and percentage. Inferential statistics include the Mann Whitney-U test which was used to find the association between selected demographic variables and patient safety domain. A p-value of less than 0.05 was considered significant in all statistical analyses.

5. Results

Out of 168 participants, a total number of 140 participants completed the questionnaire, with a response rate of 83.3%. The mean age of the responders was 29.35 years and 75.7% were males. In terms of educational qualification, 83.6% of the participants had graduated or a higher degree. The majority of participants, i.e. 38.6% had two to four years of working experience. The demographic characteristics of the participants are shown in Table 1.

Table 1: Socio-demographic Characteristics of participants, N=140

Socio-demographic Characteristics	f (%)
Age (in years)	
< 30 years	90(64.3)
>30 years	50(35.7)
Gender	
Male	106 (75.7)
Female	34(24.3)
Education	
Diploma	23(16.4)
Graduate or higher	117(83.6)
Work experience	
< 2 years	37(26.4)
2-4 years	54(38.6)
4-6 years	31(22.1)
>6 years	18(12.9)

Table 2 shows the mean value of the positive attitude towards the different dimensions of the patient safety culture and the minimum and maximum score represents the range obtained in the sub-scales of SAQ. It was found that nurses had the highest positive attitude toward the perception of management (Mean±SD;41.38±6.66) followed by safety climate (Mean±SD;28.29±4.17) and teamwork climate (Mean±SD;24.66±3.19).

Table 2: Patient safety culture attitude score of participants, N=140

Patient safety domains	Mean± SD (Min-Max)
Teamwork climate	24.66 ± 3.19 (14.0-30.0)
Safety climate	28.29 ± 4.17 (16.0-35.0)
Job satisfaction	23.39 ± 3.15 (5.0-25.0)
Stress recognition	9.02 ± 3.77 (3.0-15.0)
Perception of management	41.38 ± 6.66 (24.0-50.0)
Working condition	16.37 ± 2.93 (6.0-20.0)
Overall score	143.13 ± 5.96 (90.0-168.0)

Table 3 represents the association of demographic variables with dimensions of patient safety.

The results have shown a significant association between age and safety climate (p=0.005) stress recognition (p=0.012) management perception (p=0.000*) and working condition (p=0.003). A significant association was also found between gender and perception of management (p=0.016); work experience and working condition (p=0.03). Further, a significant association was identified between education level and safety climate (p=0.015), perception of management (p=0.058), and working condition (p=0.007).

Table 3: Association of selected demographic variables with dimensions of patient safety, N=140

Patient safety culture domains		Age (in years)		Gender		Education		Work experience	
		<30 (n=90)	>30 (n=50)	Male (n=106)	Female (n=34)	Diploma (n=23)	Graduate or higher (n=117)	< 5 years (n=91)	>5 years (n=49)
Team work climate	Mean rank	68.63	73.86	72.63	63.85	76.63	69.29	71.44	68.76
	p-value	0.458		0.264		0.420		0.67	
Safety climate	Mean rank	63.31	83.45	73.45	61.29	89.26	66.81	69.96	71.51
	p-value	0.005*		0.127		0.015*		0.80	
Job satisfaction	Mean rank	67.19	76.45	71.40	67.71	79.98	68.64	70.70	70.12
	p-value	0.133		0.592		0.154		0.92	
Stress recognition	Mean rank	76.89	58.99	67.90	78.60	69.39	70.72	74.05	63.91
	p-value	0.012*		0.179		0.886		0.09	
Perception of management	Mean rank	60.11	89.20	75.16	55.99	85.09	67.63	69.55	72.27
	p-value	0.000*		0.016*		0.058*		0.66	
Working condition	Mean rank	62.87	84.23	73.87	60.00	91.22	66.43	65.26	80.23
	p-value	0.003*		0.080		0.007*		0.03*	
Overall score	Mean rank	63.26	83.54	73.98	59.66	88.35	66.99	66.62	77.70
	p-value	0.005*		0.073		0.021*		0.12	

*Mann Whitney U test applied; *significant at p<0.05.*

6. Discussion

In this study, it is observed that participants have very positive attitudes towards perception of management that which is strongest aspect to achieve patient safety culture in SAQ followed by safety climate. This finding is found to be relevant with the study of Mahfoozpour[11] and Lee[12] that presented high score of positive attitudes of healthcare workers toward the dimension of perception of management. It seems that unit management and cooperation among team members is more effective for safe culture practice at attribute in preventing clinic errors. Also, 'teamwork' in the SAQ stand with third highest score which is similar to few studies where 'teamwork' is considered as preferred dimension for positive attitude of healthcare workers in hospitals in country like Saudi Arabia, Turkey, Egypt, Lebanon and Palestine.[13] Majority of participants attitude is noticed towards teamwork dimension, indicates a balanced coordination among healthcare team members that is key to minimizes clinical errors and adverse event.

The current study results revealed the lowest mean score of attitude towards the dimension of 'Stress recognition'. The role of the nurse has long been thought to be full of stress due to physical work, shortage of staffing, long working hours, and shift duties which are centre of concern to working nurses. Nowadays, nurses' on-duty stress has been increased because of challenges to handle new technology based equipment, equipment failure, acquiring knowledge to keep themselves updated with new trends in surgical procedures, and discomposure at work environment.[14] Therefore, it can be concluded that the problems of work related stress, burnout at work place and trouble in coping to stressful situation among operation room nurses are of global concern to all nursing professionals.[15] This stressful situation can be converted in a better calm and peaceful attitude through mutual support and respect to each other at work place.[21]

In the current study, a significant association between age and safety dimensions such as; safety climate, stress recognition, management perception and working condition indicates that attitude towards patient safety is more positive with increasing age. Similarly, high job satisfaction mean score is found positive in participants with age more than 30 years. So, it can be stated that as the nurses get older, the sense of belongingness and loyalty towards institute is higher. In addition, our study results can be helpful to identify different aspects of patient safety that need improvement, when setting goals for harmonious work environment, assessing the effectiveness of patient safety strategies and providing patient safety training for healthcare

The present study was conducted on operation room nurses considering that they are key person in operation room team with largest group and patient safety in this setup is upmost responsibility of operation room nurses being as scrub or circulatory nurse. However, other operating team members (e.g. surgeon, anaesthetics etc.) could have also included in similar study to compare patient safety attitude among other operating team members. Attitude towards patient safety can be better assessed with both qualitative and quantitative approach which was limited in this study as only quantitative approach was adopted in current study.

7. Conclusion

In this study, it is identified that there is a need of effective intervention to improve teamwork climate, job satisfaction, and stress recognition among operating room nurses. Recognising such specific dimensions of patient safety could provide significant benefits for further studies and also help the investigators to more precisely evaluate the finding in their interventions. Every healthcare institution needs to design specific interventions to improve teamwork climate and job satisfaction among nurses. Furthermore, ensuring work ethics to set a stress-free work climate is an important part of strategies in enhancing patient safety culture.

References

[1] Weiser, Thomas G., et al. "An estimation of the global volume of surgery: a modelling strategy based on available data." The Lancet 372.9633 (2008): 139-144.
[2] Von Vogelsang AC, Swenne CL, Gustafsson BÅ, Falk Brynhildsen K. Operating theatre nurse specialist competence to ensure patient safety in the operating

theatre: A discursive paper. Nursing open. 2020 Mar;7(2):495-502
[3] World Health Organization (2020), Patients safety and medical errors statistics, https://www.who.int/data/gho/publications/world-health-statistics
[4] DJ. Creating a culture of safety: Leadership, teams, and tools. Nurse Leader. 2006;4(5):38-41.
[5] Vázquez-Frías, José Antonio, et al. "El error en la prácticamédica.¿ Quésabemos al respecto?." AnalesMédicos. Vol. 56. No. 1. 2011.
[6] SteinarHaugen ,Shamini Murugesh1, et.al. "A survey of surgical team members' perceptions of near misses and attitudes towards Time Out protocols" BMC Surgery 2013, 13:46
[7] Eunok Kwon , Young Woo Kim et al. "A comparative study on patient safety attitude between nurses and doctors in operating rooms" Journal of International Medical Research, 2019; 48(4) 1–12 .
[8] Kaya S, Barsbay S, Karabulut E. The Turkish version of the safety attitudes questionnaire: psychometric properties and baseline data. Quality and Safety in Health Care. 2015:qshc.032003.
[9] Allen S, Chiarella M, Homer CS. Lessons learned from measuring safety culture: An Australian case study. Midwifery. 2010;26(5):497-503.
[10] Saberi M, Jamshidi E, Rajabi F, Seydali E, Bairami F. Attitude of Nurses toward the Patient Safety Culture: A Cross-Sectional Study of the Hospitals in Tehran, Iran. Patient SafQualImprov. 2017; 5(3):554- 560.
[11] Al Doweri HF, Al Raoush AT, Alkhatib AJ, Batiha MA. Patient's safety culture: principles and applications: review article. European Scientific Journal. 2015;11(15).
[12] Mahfoozpour S, Ainy E, Mobasheri F, Faramarzi A. Patients' safety culture status among educational hospitals of ShahidBeheshti University of Medical Sciences in 2011. Pajoohandeh Journal. 2012;17(3):134-41.
[13] Lee W-C, Wung H-Y, Liao H-H, Lo C-M, Chang F-L, Wang P-C, et al. Hospital safety culture in Taiwan: a nationwide survey using Chinese version safety attitude questionnaire. BMC health services research. 2010;10(1):234.
[14] Rudman W, Bailey J, Garrett P, Peden A, Thomas E, Brown C. Teamwork and safety culture in small rural hospitals in Mississippi. Patient Safety and Quality Healthcare. 2006;3:46-9.
[15] Weaver SJ, Lubomksi LH, Wilson RF, Pfoh ER, Martinez KA, Dy SM. Promoting a culture of safety as a patient safety strategy: a systematic review. Ann Intern Med. 2013;158(5_Part_2): 369-374.
[16] Taylor JA, Dominici F, Agnew J, Gerwin D, Morlock L, Miller MR. Do nurse and patient injuries share common antecedents? An analysis of associations with safety climate and working conditions. BMJ QualSaf. 2012;21(2):101-11.