ORIGINAL ARTICLE

Speaking up Behavior and Safety Climate in Saudi Public Hospitals

Lujain Alshraim[1], Abeer M. Alrashed[2]

1. Department of Health Administration, College of Business Administration, King Saud University, Riyadh, Saudi Arabia.
   *Lujain Alshraim is now working at King Abdulaziz City for Science and Technology
2. Department of Health Administration, College of Business Administration, King Saud University, Riyadh, Saudi Arabia.

(Corresponding Author)
    Abeer M. Alrashed
    Associate Professor
    Department of Health Administration
    College of Business Administration, King Saud University
    Riyadh, Saudi Arabia.
    Email: abirashd@ksu.edu.sa

ABSTRACT

OBJECTIVE: To assess the safety climate among and between health practitioners in Saudi Arabia by identifying speaking up behavior and speaking up about the related climate.

METHODOLOGY: A cross-sectional study was conducted among 135 physicians and 434 nurses in Saudi public hospitals using the Speaking Up about Patient Safety Questionnaire to assess various speaking up dimensions. Study questionnaires were completed from May to June 2019. The research purpose and confidentiality and anonymity assurance were provided at the beginning of the questionnaire. The individuals' participation was regarded as informed consent.

RESULTS: a total of 569 physicians and nurses participated. Both professions perceived concerns regarding patient safety, and nurses kept silent more yet reported a higher likelihood of speaking up than physicians. Psychological protection for speaking up was equal for both professions, but nurses reported the environment as encouraging, and physicians were more resigned.

CONCLUSION: The findings of this study support further investment into research to design interventions and improve patient safety by enhancing speaking up behavior and speaking up climate through recognizing and eliminating the barriers in healthcare settings. Despite ongoing improvement efforts, the current findings highlighted that safety is yet to be fully established.

Keywords: Speaking up behaviour, Speaking up climate, Patient Safety, Safety climate, Saudi Arabia, Healthcare practitioners.

INTRODUCTION

Patient safety has increasingly become a priority issue for healthcare systems in recent years.[1] Safety issues are believed to arise from safety violations and unintentional errors and mistakes[2]. Attention and concern toward medical errors are considered essential to patient safety[3,4]. Medical errors, a reported global burden,[4] is "the failure of a planned action to be completed as intended or the use of the wrong plan to achieve a goal" [5].

Patient safety is a discipline that aims toward achieving trustworthy healthcare by applying scientific methods. It is a feature of healthcare systems where it minimizes the occurrence of adverse events and maximizes recovery from them[6]. An adverse event is an "unintended physical injury resulting from or contributed to by medical care that requires additional monitoring, treatment, or hospitalization, or that results in death" [7].

In Saudi Arabia, not much is known about the rates of errors associated with adverse events. According to the Ministry of Health, nearly 40,000 medical error complaints are filed annually[8]. Despite the rising emphasis on patient safety, little is known about safety culture in Saudi hospitals. Local studies reported that healthcare professionals hold a favourable view toward patient safety culture; [9] doctors rated patient safety culture more positively than nurses and pharmacists[10], and safety attitudes were less than positive and correlated with the number of reported errors[8].

In response to the growing problem of medical errors and increasing public pressure, Saudi health organizations have been actively working to improve safety and quality of care. Numerous initiatives were applied, mainly by setting standards and introducing accreditation schemes[11].

The role of healthcare professionals in addressing patient safety is vital. Speaking up can effectively reduce safety risks; however, they are often reluctant to express their safety concerns due to complex trade-offs within the field[12]. Speaking up is "assertive communication of patient safety concerns through information, questions or opinions in clinical situations where immediate action is needed to avoid harm for the patient" [12,13].

The current study's findings would help pinpoint the obstacles and design a better system of patient care. Hence, the study was designed to assess the patient safety culture in Saudi hospitals. It was conducted to identify speaking up behavior, consider speaking up related climate and compare the safety climate between physicians and nurses.

METHODOLOGY

Study Design and setting

This cross-sectional study invited a convenience sample of physicians and nurses working in public hospitals in different cities via numerous social media platforms (LinkedIn, Twitter, WhatsApp, and Snapchat). The included hospitals represent the variety of public hospitals in the Saudi healthcare system, including academic, specialist, military, and Ministry of Health (MoH) hospitals.

The research purpose and confidentiality and anonymity assurance were provided at the beginning of the questionnaire. The individuals' participation was regarded as informed consent.

Data collection

The study and questionnaire were conducted from May to June 2019. The study was approved by the Research Ethics Committee of Kind Saud University Saudi Arabia ERC letter No. KSU-HE-19-231, dated: 18-05-2019.

Study instrument

The questionnaire contained a demographic section, followed by the 'Speaking Up about Patient Safety Questionnaire (SUPS-Q), which the Swiss Patient Safety Foundation recently developed. The development and psychometric properties of the questionnaire have been recently reported in detail.[14]

The SUPS-Q comprises on following three sections:

1) Three behaviour-related scales are assessed with 11 items; (PC1-PC3) asses perceived safety concerns due to errors and rule violations, (WV1-WV4) past withholding voice behaviours and (SU1-SU4) past speaking up.

2) Three climate-related scales, which are also assessed with 11 items; (PSS1-PSS5), address the psychological safety of speaking up, (EES1-EES3) encourage an environment for speaking up, and (RES1-RES3) resignation towards speaking up.

3) A hypothetical speaking-up behaviour assessed through a vignette

Statistical Analysis

First, descriptive statistics were conducted and followed by running analysis of variance (ANOVA) and t-tests to determine the differences between the two groups of participants: physicians and nurses. A P-value<0.05 was considered statistically significant.

RESULTS

Table I listed the characteristics of the study participants. Five hundred and sixty-nine correctly completed the online questionnaire.

TABLE I: CHARACTERISTICS OF STUDY PARTICIPANTS (n = 569)

	n (%)		n (%)
Physician	135(23.7)	Male	161(28.3)
Nurse	434(76.3)	Female	408(71.7)
Age			
<20	0(		
20-29	181(31.8)	Single	204(35.9)
30-39	285(50.1)	Married	349(61.3)
40-49	76(13.4)	Widowed	0(0)
50-59	24(4.2)	Divorced	16(2.8)
60>	3(0.5)		
Education		*Having Children*	
Diploma	118(20.7)	No	268(47.1)
Bachelor	326(57.3)	Yes	301(52.9)
Master	63(11.1)	Saudi	200(35.1)
PhD	62(10.9)		
		Non-Saudi	369(64.9)
Years of employment		*Working hours per week*	
Less than 2	71(12.5)	Less than 10	41(7.2)
2-5	148(26)	10-24	59(10.4)
6-10	196(34.4)	25-40	113(19.9)
11-20	120(21.1)	More than 40	356(62.6)
More than 20	34(6)		

Speaking up behaviour among health practitioners

Table II showed that nurses were more concerned about patient safety; however, physicians' observation of potential errors increased, and they witnessed more rule violations. The participants had little concern, with no significant difference between nurses and physicians. Respondents reported a low likelihood of remaining silent, and nurses were significantly more silent. On the other hand, respondents said moderately speaking up at least once in certain situations, while nurses were significantly more likely to speak up.

TABLE II: SPEAKING UP BEHAVIOURAL ATTITUDES

How often have you experienced this during the past month?	Means/M (%)		
	Total	Physicians	Nurses
Perceived concerns (%)	**M (%)**	**M (%)**	**M**
Worried about patient safety	3.09(88.2)	2.86(88.9)	3.17(88.0)
Noted harmful error	2.30(76.1)	2.41(84.4)	2.26(73.5)
Noted incompliance with safety rules	2.20(73.5)	2.35(83.7)	2.15(70.3)
Scale mean	2.53	2.54	2.53
P-value	0.8458		
Withholding voice	**M (%)**	**M (%)**	**M (%)**
Did not mention worries about patient safety	1.71(45)	1.59(40.7)	1.75(46.3)
Did not mention innovative ideas for patient safety	2.66(70.8)	2.33(63.0)	2.76(73.3)
Did not speak to prevent an incident	1.40(26.7)	1.38(26.7)	1.41(26.7)
Did not confront others for violating safety rules	1.92(51.7)	1.84(51.9)	1.94(51.6)
Scale mean	1.92	1.78	1.96
P-value	0.0015		
Speaking up	**M (%)**	**M (%)**	**M (%)**
Talked about patient safety worries	3.20(91.2)	2.86(88.1)	3.31(92.2)
Pointed out harmful error	2.70(78.6)	2.47(79.3)	2.78(78.3)
Confronted others for violating safety rules	2.94(84)	2.70(81.5)	3.01(84.8)
Stopped an incident	2.91(86.1)	2.44(81.5)	2.85(87.6)
Scale mean	2.94	2.62	2.99
P-value	<0.001		

On the five-level Likert scale, 5 represents Very often (more than 10 times), and 1 represents Never.

Speaking up related climate among health practitioners
Overall, the psychological safety for speaking up was the same for both professions, although nurses perceived speaking up as more effortless and were more confident of their supervisors' support. Nurses were also more encouraged by the environment, their supervisor, and their colleagues to speak up, and they observed others speaking up more. In total, resignation toward speaking up was lower than psychological safety and an encouraging environment. **(Table III)**

TABLE III: SPEAKING UP RELATED TO CLIMATE

	Mean	SD[+]	Physicians	Nurses
Psychological safety for speaking up				
Reliable colleagues	5.48	1.58	5.58	5.45
Reliable supervisor	5.46	1.65	5.60	5.42
Easy to talk about safety worries	5.43	1.69	5.24	5.48
Considerate colleagues on safety worries	5.41	1.59	5.36	5.42
Considerate supervisors on safety worries	5.60	1.55	5.42	5.66
Overall	5.48		5.44	5.44
P-value				0.961
Encouraging environment for speaking up				
Everyone talks freely about safety worries.	5.45	1.47	5.03	5.59
Colleagues support talking about safety worries.	5.58	1.49	5.23	5.69
Supervisors support talking about safety worries.	5.61	1.49	5.21	5.73
Overall	5.55		5.16	5.67
P-value				<0.001
Resignation towards speaking up				
Staff need reminders on safety rules.	3.60	1.87	3.54	3.61
No action was taken towards safety worries.	3.89	1.86	3.87	3.90
Hard to submit safety worries.	4.75	1.86	4.64	4.78
Overall	4.08		4.02	4.10
P-value				0.468

[+]*Standard deviations (SD)*
On the seven-level Likert scale, 7 represents Strongly agree, and 1 represents Strongly disagree.

Vignette

A hypothetical situation of a physician shaking hands with a patient and starting the physical exam *immediately* without sanitizing his hands. It was shared with the participants, and they perceived the lack of sanitation as realistic (M=4.17), and no statistical differences were seen between the two professions (P=0.07). Nurses were significantly higher than physicians, with a high total means of the possibility of endangering patients (M=5. 96, P=0.005), alongside a high self-reported likelihood of speaking up (M=5.07, P=0.009). Statistically, it was more awkward for nurses to instruct consultants on sanitation than doctors (M=4.67, P<0.001).

DISCUSSION

Healthcare professionals must speak up about their concerns before serious events occur.[15] To our best knowledge, this is the first study to report speaking up behaviour and safety climate in Saudi hospitals using the validated 'Speaking up about patient safety questionnaire', which provides valuable insight into behavioral patterns of healthcare workers across the Kingdom.

Around three-fourths of the participants had at least once-specific concerns, observed an error, and observed rule violations. According to previous research, nurses reported having more frequent safety concerns and withholding voices than doctors; also, healthcare workers without managerial functions had more worries than workers with administrative functions[13,16]. In the current study, physicians and nurses did not differ in their concerns about patient safety, contradicting similar studies[3,14,16]. Though current participating nurses had fewer concerns than doctors and kept silent more often, they reported higher speaking rates; these seemingly contrasting results could be attributed to nurses being the primary hospital caregivers, thereby spending more time with patients and encountering more incidents[17,18]. Furthermore, since nurses are considered the symbol of warmth and compassion[19], they need to perceive their profession and themselves positively[20]. Therefore, they show a professional image which may or may not be within a professional context[21]. An image can be viewed as a mental conception held by group members, which affects people's expectations toward each other and transfers to their perceptions of others about themselves[20].

It was apparent that the current participants reported higher levels of psychological safety, which qualified for a culture of freedom to address safety worries[12]. Psychological safety is positively related to work involvement. Thus it enables employees to talk freely about their worries[22]. Our results indicated that it was similar for physicians and nurses, whereas previously, it was reported higher for nurses[3]. According to previous research, unlike speaking up behaviour, withholding voice was associated with psychological safety and an encouraging environment[14].

Most of our respondents, mainly nurses, saw the vignette as realistic. They thought it posed a higher risk, but were more uncomfortable about instructing the consultant, yet - surprisingly - they had a higher reported likelihood of speaking up than doctors. These findings differed slightly from those reported previously in which nurses were less likely to speak up[3,12,14].

Although our findings contradicted former studies, they correspond to the point of correlation between perceived risk and speaking up intention[3,12,16,23]. The SUPS-Q is a comprehensive speaking-up tool which is suitable to be applied by all health practitioners[14].

CONCLUSION

However, the study had several limitations. First, results cannot be generalized due to the non-random selection of the study sample. Therefore they may not accurately reflect the actual situation in Saudi hospitals. Secondly, data were self-reported, which might be subject to recall bias. Thirdly, the majority of the respondents were non Saudi's, this could report different perceptions due to cultural differences because the majority of healthcare workers, nurses in particular, are non-nationals. Despite these limitations, due to the lack of research in this area, the study provides valuable information and sheds light on several critical patient safety issues in Saudi hospitals.

AUTHOR CONTRIBUTIONS

Alshrain L:	Conducted the research as a graduation project (Master's program of Health and Hospital Administration) wrote the manuscript.
Alrashed AM:	Supervised the graduation project, reviewed and edited the manuscript

REFERENCES

1. Sendlhofer G, Brunner G, Tax C, Falzberger G, Smolle J, Leitgeb K et al. Systematic implementation of clinical risk management in a large university hospital: The impact of risk managers. Wien Klin Wochenschr. 2015; 127(1-2): 1–11. doi: 10.1007/s00508-014-0620-7. Epub 2014 Nov 13.

2. Gershon RR, Karkashian CD, Grosch JW, Murphy LR, Escamilla-Cejudo A, Flanagan PA et al. Hospital safety climate and its relationship with safe work practices and workplace exposure incidents. Am J Infect Control. 2000; 28(3): 211-21. doi: 10.1067/mic.2000.105288.

3. Schwappach D, Sendlhofer G, Hasler L, Gombotz V, Leitgeb K, Hoffmann M et al. Speaking up behaviors and safety climate in an Austrian university hospital. Int J Qual Health Care. 2018; 30(9): 701-707. doi: 10.1093/intqhc/mzy089.

4. Alshammari MH, Mital DP. Medical errors in Saudi Arabia: Understanding the pattern and associated financial cost. Int J Med Engineer Inform. 2016; 8(1): 41-48. doi: 10.1504/IJMEI.2016.073652.

5. Kohn LT, Corrigan JM, Donaldson MS, Eds. To Err is Human: Building a Safer Health System. In: Institute of Medicine (US) Committee on Quality of Health Care in America. Washington DC: National Academics Press (US); 2000.

6. Emanuel L, Berwick D, Conway J. What Exactly Is Patient Safety? In: Henriksen K, Battles JB, Keyes MA, eds. Advances in Patient Safety: New Directions and Alternative Approaches; 2008 (Vol. 1: Assessment). Retrieved from http://www.ncbi.nlm.nih.gov/books/NBK43629/

7. AHRQ Patient Safety Network. Adverse Events, Near Misses, and Errors. Retrieved September 26, 2019. Available from: https://psnet.ahrq.gov/primer/adverse-events-near-misses-and-errors

8. Alzahrani N, Jones R, Abdel-Latif ME. Attitudes of doctors and nurses toward patient safety within emergency departments of two Saudi Arabian hospitals. BMC Health Serv Res. 2018; 18: 736. doi: 10.1186/s12913-018-3542-7.

9. Alshammari F, Pasay-an E, Alboliteeh M, Alshammari MH, Susanto T, Villareal S et al. A survey of hospital healthcare professionals' perceptions toward patient safety culture in Saudi Arabia. Int J Afr Nurs Sci. 2019; 11: 100149. doi: 10.1016/j.ijans.2019.100149.

10. Alharbi W, Cleland J, Morrison Z. Assessment of Patient Safety Culture in an Adult Oncology Department in Saudi Arabia. Oman Med J. 2018; 33(3): 200–208. doi: 10.5001/omj.2.018.38.

11. Alahmadi HA. Assessment of patient safety culture in Saudi Arabian hospitals. Qual Saf Health Care. 2010; 19(5): e17. doi: 10.1136/qshc.2009.033258.

12. Schwappach DL. Speaking up about hand hygiene failures: A vignette survey study among healthcare professionals. Am J Infect Control. 2018; 46(8): 870–875. doi: 10.1016/j.ajic.2018.02.026. Epub 2018 Apr 9.

13. Morrow KJ, Gustavson AM, Jones J. Speaking up behaviours (safety voices) of healthcare workers: A metasynthesis of qualitative research studies. Int J Nurs Stud. 2016; 64: 42–51. doi: 10.1016/j.ijnurstu.2016.09.014. Epub 2016 Sep 21.

14. Richard A, Pfeiffer Y, Schwappach DDL. Development and Psychometric Evaluation of the Speaking Up About Patient Safety Questionnaire. J Patient Saf. 2021; 17(7): e599-e606. Doi: 10.1097/PTS.0000000000000415.

15. Okuyama A, Wagner C, Bijnen B. Speaking up for patient safety by hospital-based health care professionals: A literature review. BMC Health Serv Res. 2014; 14: 61. doi: 10.1186/1472-6963-14-61

16. Schwappach, David LB, Gehring K. Silence That Can Be Dangerous: A Vignette Study to Assess Healthcare Professionals' Likelihood of Speaking up about Safety Concerns. PLoS One. 2014; 9(8): e104720. doi: 10.1371/journal.pone.0104720.

17. Hendrich A, Chow MP, Skierczynski BA, Lu Z. A 36-Hospital Time and Motion Study: How Do Medical-Surgical Nurses Spend Their Time? Perm J. 2008; 12(3): 25–34.

18. Westbrook JI, Duffield C, Li L, Creswick NJ. How much time do nurses have for patients? A longitudinal study quantifying hospital nurses' patterns of task time distribution and interactions with health professionals. BMC Health Serv Res. 2011; 11(1): 319. doi: 10.1186/1472-6963-11-319.

19. Stanley E. Public perception of the nursing image of professionalism based on the clothing worn by the nurse. Lamar University - Beaumont Proquest Dissertations Publishing, 2004. 1423118.

20. Masih S, Gulzar L. Nurses' Self Perception about their Public Image in a Metropolitan City, Karachi. J Dow Univ Health Sci. 2016; 10(2): 70-74.

21. Varaei S, Vaismoradi M, Jasper M, Faghihzadeh S. Iranian nurses self-perception–factors influencing nursing image. J Nurs Manag. 2012; 20(4): 551-60. doi: 10.1111/j.1365-2834.2012.01397.x. Epub 2012 Feb 27.

22. Nembhard IM, Edmondson, AC. Making it safe: the effects of leader inclusiveness and professional status on psychological safety and improvement efforts in health care teams. J Org Behav. 2006; 27(7): 941-966. doi: 10.1002/job.413.

23. Lyndon A, Sexton JB, Simpson KR, Rosenstein A, Lee KA, Wachter RM. Predictors of likelihood of speaking up about safety concerns in labour and delivery. BMJ Qual Saf. 2012; 21(9): 791-9. doi: 10.1136/bmjqs-2010-050211.