

Safety Culture Among Egyptian Healthcare Providers

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Background

A limited amount of data exists among developing and underdeveloped nations related to patient safety. The Safety Attitudes Questionnaire (SAQ) is the most widely used, self-administered, validated questionnaire measuring patient safety. To date, one Egyptian hospital has published results from the SAQ administered to nurses.¹ The study revealed that nurses were neutral regarding the safety of the work environment. Job satisfaction, team-work climate, and stress recognition rated highest on the survey. Perceptions of management and working conditions rated lowest. Baseline evaluation of patient safety culture among other members of the healthcare team is lacking.

Objective

Identify healthcare professionals' perceptions of and attitudes towards patient safety and determine whether demographic characteristics influence responses to survey questions.

Methods

Data Source: A total of 250 employees consisting of physicians, pharmacists, nurses, physical therapists, administration, assistants, and secretaries at two medical centers, Children's Cancer Hospital Egypt 57357 and 6th of October Hospital, in Egypt voluntarily completed the SAQ questionnaire over a 14-day period. 57357 is a 320-bed, non-profit organization that offers free services for children with cancer in Egypt, Africa, and the Middle East. 6th of October offers outpatient medical support to military personnel and their families. Participants were able to complete the survey on paper or electronically

Data Analysis: Descriptive statistics for frequencies were used to compare participants' background information. To detect differences from other cultures, the safety scores of Egyptian healthcare professionals were compared with international benchmark safety domains.² In addition, associations of mean scores of each SAQ safety domain were analyzed. To compare mean scores between the safety scores of Egyptian healthcare professionals and SAQ international benchmark safety domains, 95% confidence intervals were produced. Independent t-test and one-way analysis of variance (ANOVA) were performed to detect any differences between the mean scores of each safety domain according to demographic characteristics. Tukey's multiple comparison tests were produced for each level of the main effect if the result of ANOVA was significant for each characteristic. In addition, Pearson's correlation coefficient was used to detect correlation between the safety culture dimensions. Analyses were performed with SAS version 9.4 (SAS Institute, Cary, NC).

Results

Table 2. Association of mean scores of each safety culture dimension according to demographic characteristics

Characteristics	Mean(SD)							
	Teamwork climate	Safety climate	Job satisfaction	Stress recognition	Perceptions of management (unit)	Perceptions of management (hospital)	Working conditions	Overall dimensions
Gender								
Female	77.6(16.6)	74.6(14.6)	80.2(19.6)	51.0(26.7)	69.8(22.1)	69.0(22.3)	74.0(25.3)	71.1(13.0)
Male	78.8(15.9)	73.7(16.6)	81.7(19.9)	55.8(25.0)	67.6(19.6)	66.3(21.2)	76.9(18.9)	71.5(11.2)
Years in specialty								
Less than 6 months	73.8(19.0)	75.8(14.1)	82.8(17.3)	55.8(27.2)	79.1(14.9)	79.8(15.4) [†]	74.4(22.2)	74.5(11.0)
6-11 months	78.0(17.1)	75.3(17.6)	83.1(17.2)	54.2(20.3)	62.0(25.6)	62.3(16.2)	77.7(16.1)	70.4(9.6)
1-2 years	81.4(13.4)	73.4(16.1)	80.3(19.4)	56.7(22.5)	71.6(20.3)	66.2(25.8)	72.9(26.8)	71.9(13.2)
3-4 years	77.6(14.8)	73.2(12.8)	76.3(17.8)	51.1(24.6)	67.2(17.9)	64.9(20.1)	72.3(21.5)	69.4(12.4)
5-10 years	75.9(18.1)	72.5(17.0)	80.7(20.6)	53.7(27.9)	69.2(20.0)	68.6(20.8)	77.5(21.3)	71.1(11.5)
11-20 years	81.9(14.3)	76.3(14.7)	87.8(11.5)	43.9(30.5)	65.8(21.5)	69.4(20.0)	76.4(22.7)	71.2(11.3)
21 or more years	79.2(18.2)	76.8(19.4)	87.3(21.2)	63.1(26.9)	68.1(29.0)	70.6(23.5)	78.2(25.8)	74.4(17.9)
Position								
Attending/Staff physician	85.2(14.8)	76.7(17.7)	90.7(10.2) [†]	62.6(25.7)	69.0(18.0)	67.3(14.9)	82.7(16.4)	76.1(10.9)
Nurse Manager/Charge Nurse	77.8(15.4)	76.9(12.4)	78.8(17.2)	51.0(22.9)	71.7(15.4)	70.9(19.9)	78.5(19.7)	73.3(9.5)
Pharmacist	77.6(13.9)	72.6(16.5)	80.4(17.5)	51.6(26.5)	65.7(19.7)	62.7(21.4) [†]	69.0(25.1)	68.5(11.4)
Professional Nurse	74.7(15.8)	72.6(14.2)	80.7(15.8)	55.3(23.6)	67.0(21.8)	67.0(21.3)	76.3(19.8)	70.6(11.8)
Resident Physician	81.9(14.3)	75.8(14.2)	77.5(20.4)	50.0(24.5)	66.4(20.7)	62.1(11.1) [†]	75.9(14.3)	70.0(9.4)
Other	79.7(20.5)	73.7(18.0)	82.2(25.0)	50.8(31.1)	74.9(23.3)	77.6(27.4) [†]	77.1(27.9)	73.7(15.8)
Primarily work with								
Inpatients	80.0(15.1)	75.1(14.9)	82.3(17.4)	51.7(26.4)	68.6(20.8)	68.5(20.0)	76.0(21.5)	71.9(11.3)
Outpatients	74.7(14.4)	70.8(15.6)	78.6(17.5)	55.1(24.1)	65.8(19.1) [†]	63.8(23.7) [†]	72.0(22.7)	68.7(12.8) [†]
Other	79.4(23.7)	77.3(18.0)	82.4(26.1)	54.4(29.1)	77.1(22.7) [†]	75.2(22.9) [†]	80.7(24.7)	75.2(12.9) [†]

Table 1. Comparison of Egyptian healthcare professional safety scores with international benchmark for safety domain in SAQ

	SAQ Safety domain, mean(95%CI)						
	Teamwork climate	Safety climate	Job satisfaction	Stress recognition	Perceptions of management (unit)	Perceptions of management (hospital)	Working conditions
International benchmark ²	68.5 (68.0-68.9)	65.9 (65.5-66.3)	63.6 (63.0-64.1)	67.8 (67.3-68.3)		46.4 (45.9-46.8)	55.9 (55.3-56.4)
Egyptian healthcare professionals	78.2 (76.1-80.3) [*]	73.9 (71.9-75.9) [*]	81.1 (78.8-83.5) [*]	53.1 (49.8-56.4) [*]	68.6 (66.0-71.3) [*]	67.6 (64.9-70.4) [*]	75.2 (72.4-78.0) [*]

Results Continued

The majority of participants were female (53%), pharmacists and nurses (64%), and caring for inpatients (56%) and had three years of experience or more (68%). The response rates for Children's Cancer Hospital Egypt 57357 and 6th of October Hospital were 22.2% and 26.7%, respectively. Safety scores in five of the six domains were significantly higher among the Egyptian healthcare professionals when compared to international benchmarking data. The score of stress recognition in the Egyptian healthcare professionals was significantly lower than international benchmarking data. Significant positive correlations between each safety domain score were detected with the exception of stress recognition and teamwork and stress recognition and safety culture. Attending and staff physicians reported being more satisfied with their jobs than the other study participants (p<0.05). A more positive perception of hospital management was reported by participants with less than six months in the specialty and a position type of other (p=0.033, 0.027, respectively). Participants working in a setting other than inpatient or outpatient reported a more favorable perception of unit management than the other study participants (p=0.046). Analysis of the collaboration and communication questionnaire items that were not assigned to one of the six domains revealed a difference in perception among caregiver type. Resident physicians scored collaboration with staff physicians higher than their nursing colleagues (p=0.033 and 0.001, respectively). Resident physicians also scored communication higher than the other positions did (p=0.001). Overall scores for collaboration and communication were higher among resident physicians (p=0.005).

Conclusion

To our knowledge, this study is the first in the Middle East to survey safety attitudes among multiple healthcare disciplines and hospitals using a validated survey tool. Egyptian healthcare providers reported an overall positive perception of the culture of safety. However, recognition of the negative implications of stress on patient safety among Egyptians was lower than the international benchmark. Further work is needed to understand the low mean scores in the stress recognition domain. Additionally, this area may represent an educational opportunity. Gender, years in the profession, and position type did not influence the respondent's view of safety. Unfortunately, the survey response rate was low. Therefore, results may not be generalizable to all hospitals in Egypt. Additional studies are needed in other geographic regions and varied health-care settings in order to generalize the results to other hospitals in Egypt.

References

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Disclosures

Travel was secured with a grant of \$1300 for airfare to Egypt. Survey was conducted in Arabic and English