HOW TO IMPROVE PATIENT SAFETY CULTURE IN CROATIAN HOSPITALS?

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SUMMARY - Patient safety culture (PCS) has a crucial impact on the safety practices of healthcare delivery systems. The purpose of this study was to assess the state of PSC in Croatian hospitals and compare it with hospitals in the United States. The study was conducted in three public general hospitals in Croatia using the Croatian translation of the Hospital Survey of Patient Safety Culture (HSOPSC). A comparison of the results from Croatian and American hospitals was performed using a T-square test. We found statistically significant differences in all 12 PSC dimensions. Croatian responses were more positive in the two dimensions of Handoffs and Transitions and Overall Perceptions of Patient Safety. In the remaining ten dimensions, Croatian responses were less positive than in US hospitals, with the most prominent areas being Nonpunitive Response to Error, Frequency of Events Reported, Communication Openness, Teamwork within Units, Feedback & Communication about Error, Management Support for Patient Safety, and Staffing. Our findings show that PSC is significantly lower in Croatian than in American hospitals, particularly in the areas of Nonpunitive Response to Error, Leadership, Teamwork, Communication Openness and Staffing. This suggests that a more comprehensive system for the improvement of patient safety within the framework of the Croatian healthcare system needs to be developed. Our findings also help confirm that HSOPSC is a useful and appropriate tool for the assessment of PSC. HSOPSC highlights the PSC components in need of improvement and should be considered for use in national and international benchmarking.

Key words: Patient safety – standards; Surveys and questionnaires; Organizational culture; Croatia; Social problems; Quality of health care; Hospitals; Benchmarking

Introduction

The importance of patient safety as an issue in healthcare systems of developed countries was brought to light more than a decade ago by The Institute of Medicine. Their report entitled "To err is human: building a safer health system" warned of the problem of medical errors and proposed steps to reduce their prevalence^{1,2}. The issue of patient safety in developed countries is closely connected to the state of Patient Safety Culture (PSC), which is defined as "a set of individual and group values, attitudes, skills, strategies and methods of organization and behavior aimed at providing the safest possible healthcare"³. Assessment and building of PSC is shared by all interested parties, making it an important component of risk management^{4,5}. Analyzing the effect of individual measures towards improving patient safety, Leape *et al.* conclude that progress in the field of patient safety depends on

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changes in the existing PSC⁶. In order to assess the state of PSC in hospitals, a number of questionnaires have been developed. The most widely used PSC survey is the Hospital Survey on Patient Safety Culture (HSOPSC), developed within the Agency for Health-care Research and Quality (AHRQ)^{5,7}. Used in American hospitals since 2004, the collective results of the HSOPSC are recorded in the HSOPSC Comparative Database, which is updated annually. The HSOPSC has also been used outside the US in numerous European, Middle East, and Far East countries⁸⁻¹².

The continuing democratization of eastern European transitional countries has contributed to the interest in the subject of PSC in both healthcare workers and public at large^{13,14}. In recent years, this tendency has been further aided by initiatives from the World Health Organization (WHO)¹⁵. In Croatia, a typical transitional country, not enough is yet known about the importance of patient safety and the state of PSC in hospitals. With the aim of assessing PSC in Croatian hospitals, our study was undertaken using the Croatian translation of the HSOPSC at three public general hospitals in Croatia. The validity of this version of the survey had been previously studied and showed validity for 11 of the 12 PSC categories¹⁶. Data collected from the Croatian hospitals were compared with the results from the HSOPSC Comparative Database for American hospitals¹⁷. Our study was motivated by the potential to develop future improvements in Croatian PSC based on characteristic differences in PSC between the Croatian and American samples.

Materials and Methods

The HSOPSC survey

To analyze PSC, we used the previously validated Croatian version of the HSOPSC survey. In developing this version, preservation of meaning was confirmed by translating the Croatian HSOPSC back to English by a second translator unfamiliar with the original version¹⁸. The HSOPSC survey consists of 42 questions designed to measure 12 dimensions of PSC. Of these dimensions, seven target functions operating at the level of individual hospital units and three dimensions assess functions occurring within the hospital as a whole. The remaining two dimensions focus on outcomes related to PSC. Each dimension consists of

three to four questions, the summed responses to which provide the value for that dimension⁷. Results for each dimension are expressed as a percentage of positive, negative and neutral responses on the Likert scale. Positive responses include the statements "I agree" and "I strongly agree". Negative responses include the statements "I disagree" and "I strongly disagree". The neutral response of "neither" is also an option. Questions regarding the frequency of reporting events require a slightly different set of responses but are also scored on the Likert scale. Positive responses include the statements "most of the time" and "always". Negative responses include the statements "rarely" or "never". The neutral response, "sometimes" is also an option. The average rate of positive responses was used to compare results of the Croatian dataset with the US database.

Design, participants and ethics

The HSOPSC survey was administered to employees in three general hospitals in Croatia located in Bjelovar, Vinkovci and Požega. Each hospital's ethics committee gave prior consent for participation. Consistent with the methodology used in most US hospitals¹⁹, a hard copy of the survey was distributed to all healthcare workers and administrative staff. The employees were informed on the purpose of the survey, that their participation was voluntary, and that they were guaranteed complete anonymity. A total of 576 correctly completed surveys were submitted for analysis, which accounted for 37% of employees in the three participating hospitals.

Statistics

Survey responses were processed electronically using the AHRQ Microsoft Excel Data Entry and Analysis Tool. The program provides basic elements of statistical sample processing, while also allowing mutual comparison of results for different samples²⁰. For further analysis, the IBM SPSS Statistics program (version 19.0.0.1) was used²¹. Distribution differences of positive score for each of 42 HSOPSC items between the Croatian and US samples were tested by χ^2 -test. The differences in the positive scores in 12 PSC dimensions between the Croatian and US samples were analyzed using independent t-test. In order to compare our results with the results from US hospitals, we used denominated statistical data from the AHRQ database containing data from 883 hospitals and 338,607 processed surveys.

Results

Demographic characteristics of the two samples

Nurses accounted for most of the participants in both data sets, contributing 73% of the responses in the Croatian hospitals and 53% in the US. Physicians completed a larger proportion of responses in the Croatian sample (15%) in comparison to the American sample (5%). Conversely, administrative staff provided a smaller portion of the Croatian sample (5%) than in

Table 1. Distribution of Croatian and US respondentsaccording to profession

Profession	Percentage		
	Croatia	US	
Nurse	70%	36%	
Other	3%	21%	
Technician (e.g., ECG, Lab, Radiology)	3%	11%	
Administration/Management	4%	8%	
Unit Assistant/Clerk/Secretary	1%	7%	
Patient Care Assistant/Hospital Aide/Care Partner	0%	6%	
Physical, Occupational, Respiratory, Speech Therapist	1%	5%	
Physician	16%	5%	
Pharmacist	1%	2%	
Dietitian	0%	1%	
Total	100%	100%	

Table 2. Distribution of Croatian and US respondents according to direct contact with patients

Direct context with notion to	Percentage		
Direct contact with patients	Croatia	US	
YES, I typically have direct			
interaction or contact with	96%	76%	
patients			
NO, I typically do NOT have			
direct interaction or contact	4%	24%	
with patients			
Total	100%	100%	

the US (16%) (Table 1). Due to the decreased participation of administrative staff, Croatian hospital results were largely derived from employees in direct contact with patients (96%). Participation from this demographic group was lower in the US sample (76%) (Table 2).

Comparison of the results of the samples of Croatian and US hospitals

Comparison of percentage positive score for each of 42 HSOPSC items (questions) between Croatian and US samples was tested by χ^2 -test and sorted in 12 PSC dimensions (Table 3). From these data it could be seen which items were the major contributors to differences in the 12 PSC dimensions of the two samples compared. The relationship between positive response from the Croatian and US hospitals for each of the 12 PSC dimensions was described graphically (Fig. 1). In standard statistical analysis, individual responses of each participant from the three Croatian hospitals were compared with the average values for each of 883 US hospitals. This resulted in wide ranges of standard deviation and standard error for the Croatian sample. The independent t-test showed statistically significant differences between the Croatian and American data sets in all 12 dimensions of the HSOPSC (p<0.001). In ten of the dimensions, the Croatian respondents provided less positive responses than did the Americans. In the two dimensions of Handoffs and Transitions and Overall Perceptions of Patient Safety, the Croatian responses were more positive in comparison to the Americans (Table 4).

Discussion

Statistically significant differences were found between the Croatian and American responses in all 12 PSC dimensions, but only two dimensions of patient safety were rated more positively by Croatians as compared to the Americans. Although this distribution of positive responses may be attributable to cultural differences, demographic makeup of each group should also be taken into account. Previous research has shown that patient safety is often rated less favorably by nurses and other hospital workers in direct contact with patients^{22,23}. Similarly, the Croatian sample was mostly comprised of staff in direct contact with pa-

	Croatia %	US %	··· (•·2)
42 items and 12 dimensions of patient safety culture	positive	positive	$p(\chi^2)$
Overall perceptions of safety			
Patient safety is never sacrificed to get more work done (A15)	77	64	< 0.001
Our procedures and systems are good at preventing errors	81	71	<0.001
from happening (A18)	01	/1	<0.001
It is just by chance that more serious mistakes do not happen	58	61	0.277
around here (RA10)			
We have patient safety problems in this unit (RA17)	80	63	< 0.001
Frequency of events reported			
When a mistake is made, but is caught and corrected before	48	54	0.028
affecting the patient, how often is this reported? (D1)			
When a mistake is made, but has no potential to harm the patient, 1 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 +	47	57	0.002
how often is this reported: $(D2)$			
how often is this reported? (D3)	57	73	< 0.001
Supervised/manager superstations and estima numering			
supervisor/manager expectations and actions promoting			
My supervisor/manager says a good word when he/she sees a job done			
according to established patient safety procedures (B1)	57	72	<0.001
My supervisor/manager seriously considers staff suggestions			-
for improving patient safety (B2)	73		0.095
Whenever pressure builds up, my supervisor/manager wants us to work	((70	.0.001
faster, even if it means taking shortcuts (RB3)	66	/3	<0.001
My supervisor/manager overlooks patient safety problems that happen	81	76	0.029
over and over (RB4)	01	70	0.027
Organizational learning – continuous improvement			
We are actively doing things to improve patient safety (A6)	89	82	0.004
Mistakes have led to positive changes here (A9)	50	64	< 0.001
After we make changes to improve patient safety, we evaluate	63	68	
their effectiveness (A13)			0.055
Teamwork within units			
People support one another in this unit (A1)	69	85	<0.001
When a lot of work needs to be done quickly, we work together	82	86	0.047
as a team to get the work done (A3)			0.017
In this unit, people treat each other with respect (A4)	59	78	<0.001
When one area in this unit gets really busy, others help out (A11)	68	69	0.730
Communication openness			
Staff will freely speak up if they see something that may negatively	60	76	<0.001
affect patient care (C2)	00	70	(0.001
Staff feel free to question the decisions or actions of those	21	47	< 0.001
with more authority (C4)			
Staff are afraid to ask questions when something does not seem	52	63	< 0.001
right (RC6)			

Table 3. Percentage positive score for each of 42 items in 12 dimensions of Patient Safety Culture and χ^2 -test of distribution differences between two samples

42 items and 12 dimensions of patient safety culture	Croatia % positive	US % positive	p (χ²)
Feedback and communication about error	-	1	
We are given feedback about changes put into place based on event reports (C1)	25	55	<0.001
We are informed about errors that happen in this unit (C3)	58	65	0.008
In this unit, we discuss ways to prevent errors from happening again (C5)	54	71	<0.001
Nonpunitive response to error			
Staff feel like their mistakes are held against them (RA8)	39	51	< 0.001
When an event is reported, it feels like the person is being written up, not the problem (RA12)	30	46	<0.001
Staff worry that mistakes they make are kept in their personnel file (RA16)	35	35	0.955
Staffing			
We have enough staff to handle the workload (A2)	43	56	< 0.001
Staff in this unit work longer hours than is best for patient care (RA5)	43	53	<0.001
We use more agency/temporary staff than is best for patient care (RA7)	36	66	<0.001
We work in 'crisis mode' trying to do too much, too quickly (RA14)	34	50	< 0.001
Hospital management support for patient safety			
Hospital management provides a work climate that promotes patient safety (F1)	64	81	<0.001
The actions of hospital management show that patient safety is a top priority (F8)	63	74	<0.001
Hospital management seems interested in patient safety only after an adverse event happens (RF9)	50	60	<0.001
Teamwork across hospital units			
There is good cooperation among hospital units that need to work together (F4)	64	59	0.063
Hospital units work well together to provide the best care for patients (F10)	59	68	<0.001
Hospital units do not coordinate well with each other (RF2)	64	46	< 0.001
It is often unpleasant to work with staff from other hospital units (RF6)	43	59	<0.001
Hospital handoffs and transitions			
Things 'fall between the cracks' when transferring patients from one unit to another (RF3)	55	41	<0.001
Important patient care information is often lost during shift changes (RF5)	78	49	<0.001
Problems often occur in the exchange of information across hospital units (RF7)	57	42	<0.001
Shift changes are problematic for patients in this hospital (RF11)	71	44	<0.001



Fig. 1. Relationship in positive response between Croatian and US hospitals for each of the 12 Patient Safety Culture dimensions.

tients, possibly contributing to a harsher assessment of the state of PSC. While considering that a variety of factors may have influenced the results of our study, cultural differences appear to explain the majority of findings and therefore warrant further discussion.

Psychometric analysis of the Croatian translation of the HSOPSC showed good fit for all PSC dimensions except for Staffing¹⁶. This finding of low internal consistency for the dimension of Staffing has also been found in almost all other studies using HSOPSC outside of the US. As in our study, for example, UK and Japanese authors found Staffing to be the sole dimension lacking an acceptable level of internal consistency^{12,24}. Even in the US, repeat multilevel psychometric survey analysis found Staffing to have the lowest Cronbach alpha value of all 12 dimensions in a sample of 331 USA hospitals^{25,26}. Conversely, the Cronbach alpha value for Staffing exceeded the acceptable value of 0.6 in a Slovenian study, a population expected to give similar results to Croatian respondents¹⁴.

The difficulties associated with consistency in the Staffing dimension may be attributable to hospital behavior or work organization that varies between countries. For example, loss of employees from a given unit naturally leads to hiring new employees in many hospitals. In Croatian hospitals, however, the loss of staff is more often addressed with redistribution of work among the remaining staff members. Due to Croatian accession to the European Union (EU) in 2013, ongoing harmonization of Croatian labor laws with that of the EU will likely change many such existing practices in Croatian hospitals. Therefore, the dimension of Staffing can be expected to become more comparable with the original version of the HSOPSC in the forthcoming years. As such, our study included the dimension of Staffing in the analysis with the understanding that it should not be used to draw firm conclusions at this time. Although tentative, the Staffing results do suggest widespread dissatisfaction with working conditions among Croatian hospital employees.

The main purpose of comparing our results to those from American hospitals was to help detect and point to critical benchmarks for PSC in need of improvement in Croatian hospitals. This choice was based on the assumption that American hospitals have the most developed level of PSC. This comparison also allows a starting point for building a comprehensive system of patient safety through the analysis of observed similarities and differences. It is evident that the differences between the Croatian and American hospital samples are statistically significant for all 12 dimensions of the HSOPSC. With more negative results in 10 of the 12 dimensions, the Croatians appear to be lagging behind the Americans in the development of

		1		1		
HSOPSC dimension	Group	Ν	Mean	SD	Std. error of mean	р
Communication Openness	US	878	3.67	0.16	0.01	<0.001
	Croatia	576	3.30	0.87	0.04	
Frequency of Events Reported	US	877	3.73	0.19	0.01	<0.001
	Croatia	558	3.36	1.37	0.06	
Feedback and Communication	US	865	3.74	0.20	0.01	.0.001
about Error	Croatia	576	3.35	0.89	0.04	<0.001
	US	881	3.24	0.25	0.01	0.001
Hospital Handoffs and Transitions	Croatia	573	3.54	0.66	0.03	<0.001
Hospital Management Support	US	879	3.76	0.24	0.01	0.001
for Patient Safety	Croatia	571	3.39	0.77	0.03	<0.001
N	US	878	3.19	0.22	0.01	<0.001
Nonpunitive Response to Error	Croatia	576	2.83	0.78	0.03	
Organizational Learning	US	883	3.78	0.16	0.01	<0.001
- Continuous Improvement	Croatia	576	3.56	0.63	0.03	
Overall Perceptions of Patient Safety	US	882	3.64	0.21	0.01	0.001
	Croatia	576	3.71	0.65	0.03	
Staffing	US	877	3.44	0.25	0.01	.0.001
	Croatia	576	3.05	0.60	0.02	<0.001
Supervisor/Manager Expectations	US	876	3.89	0.17	0.01	<0.001
and Actions Promoting Patient Safety	Croatia	575	3.62	0.76	0.03	
Teamwork across Hospital Units	US	876	3.47	0.23	0.01	<0.001
	Croatia	573	3.30	0.79	0.03	
Teamwork within Hospital Units	US	882	3.94	0.17	0.01	<0.001
	Croatia	576	3.55	0.75	0.03	

Table 4. Differences in 12 HSOPSC dimensions between Croatian and US samples

PSC. This result is not surprising for a transitional society in which the awareness of the issue of patient safety is emerging as a new but still weak consideration for all interested parties.

The importance of understanding PSC results within a greater cultural context has been apparent since the first use of HSOPSC outside the US for comparing results with the US database. In the first study of this kind, Taiwanese researchers found lower levels of positive responses to be statistically significant for the three dimensions of Communication Openness, Feedback and Communication about Error, and Frequency of Events Reported¹¹. The authors interpreted the results as a reflection of important differences between the two cultures. Whereas American culture values individualism, Chinese culture has a more pronounced sense of collectivity, which can inhibit the discussion of errors that may seem to reflect poorly on the group^{11,27}. A similar pattern can be found in PSC analysis of hospitals in Turkey, another culture that tends to place a high value on collectivity. Using a version of the HSOPSC that contained only ten dimensions, Turkish researchers found statistically significant differences in seven dimensions in comparison to the US. In six of these dimensions, Turkish responses were less positive than the American results, with the lowest results found in the areas of Frequency of Events Reported and Nonpunitive Response to Error. Only one dimension with statistically significant differences, Handoffs and Transitions, was scored more positively by Turkish respondents⁹.

Similarly, the dimension of Handoffs and Transitions was one of two categories with statistically significant differences that were scored more positively by our Croatian respondents as compared to Americans. This pronounced positive attitude towards the quality of handoffs and patient transitions among Croatian respondents is a valuable property of the current PSC in Croatian hospitals, making it one of the possible points of reference for enhancing the system of patient safety. The high level of positivity regarding Handoffs and Transitions in Croatian hospitals may in part be due to the successful introduction of nursing medical records. This practice can enhance patient safety while also providing nurses the means to take an active role in its remediation²⁸. Another factor likely contributing to the quality of Handoffs and Transitions reported in the Croatian sample may be explained by the research having been conducted in small hospitals. Such settings promote a high degree of familiarity that is further enhanced by the on-going tradition of regular meetings among unit leaders. Their gatherings may contribute to a sense of fellowship and cooperation that is transmitted to other staff members. Whereas such familiarity may contribute to team building in other settings, the reluctance in Croatian hospitals to embrace a teamwork mentality is consistent with cultural norms. Appearance rather than performance motivates concerns regarding the quality of a group in Croatian society, a factor likely contributing to the dynamics within and between hospital units. While cultural attributes appear to be aiding Croatian hospitals in maintaining a positive PSC in the area of Handoffs and Transitions, this is the only dimension that has shown a downward trend towards ever more negative responses from Americans in the early AHRQ trending reports¹⁷. This tendency probably reflects segmentation and sequestration in the hospital system, growing workforce fluctuations, and the increased amounts of information collected during patient care in American hospitals. This trend has recently improved possibly as the result of the actions based on HSOPSC research²⁹.

Although the positive responses in Handoffs and Transitions indicate smooth work within units, Croatian respondents indicated a low degree of cooperation among hospital units. The tendency of Croatian hospital units to function as a system of closed communities may be a result of management style but may also be attributable to the lack of team spirit, as indicated by low ratings in the Teamwork dimension. This dimension is made up of two questions referring to relationships within the team in terms of mutual respect and support, and two questions that detect the attitude towards work. Worth noting is that as the service users, patients are impacted by the attitudes hospital employees feel towards their work. While the relationships among team members in our sample ranked far lower than for US respondents, the attitude towards work and indirectly towards patients showed slight tendencies towards the positive in comparison with US respondents. This suggests that Croatian healthcare workers have established a more patient-centered approach to their work, which is a positive and encouraging parameter of PSC. At the same time, Croatians revealed deep dissatisfaction with relationships within their teams, which is the reason this dimension also showed a statistically significant difference in comparison with US respondents.

The dimension of Overall Perceptions of Patient Safety was statistically significantly more positive in the Croatian sample as compared to the US. The result was somewhat unexpected because the Croatian sample was less positive in 10 of 12 dimensions, showing they have a less-positive overall PSC. This apparently paradoxical finding highlights some interesting aspects regarding patient safety that may become better understood with further studies. Meanwhile, similarly high results have been found by Turkish researchers9. In Slovenia, one of the Croatia neighbor states, the percentage of positive responses in the dimension of Overall Perceptions of Patient Safety was exactly the same as in the US14. The more positive results in the Croatian sample suggest that outcomes could be better in Croatia than in the US. These results may be partially explained by the high degree of patient-centeredness among Croatian health professionals and their high professional standards. Other factors such as the level of awareness of the problem and the sample size may also be contributing to this finding. Important to note is that this dimension relates to outcomes, an objectively quantifiable aspect of patient safety. Until a study assesses the actual level of medical errors in Croatia, the significance of any relationship between perceived and actual patient safety in Croatia can only be assumed.

Open communication in all areas of Croatian society is still repressed and restrained, making it unsurprising that this issue also manifests in PSC. Fear of open communication about the issues of patient safety is especially pronounced in situations when speaking out may be perceived as subverting the authority of supervisors. Croatian participants in our study responded to the statement "Staff feel free to question the decisions or actions of those with more authority" with the lowest percentage of positive responses in any portion of the survey. While it only garnered a 21% positive response rate from the Croatians, the same question was 47% positive in the US sample. This is an unmistakable indicator that the management in Croatian hospital units is very often based on an authoritarian, patriarchal, hierarchical model, in which it is undesirable or dangerous to question the decisions and attitudes of the superiors⁶. Such a mindset is the lingering imprint of inherited social systems that are still being disentangled from the living and working conditions of Croatians. An underdeveloped state of democracy is one of the key obstacles to establishing and maintaining a comprehensive system of patient safety in Croatian hospitals.

Communication problems can influence many aspects of PSC. With regard to providing feedback and discussing adverse events, only 25% of Croatian respondents, as compared to 55% of US respondents, agreed that they are given feedback about changes put into place based on adverse event reports. These findings serve as an indicator that Croatian supervisors tend to practice an attitude of indifference towards subordinates. Problems with management style are also visible in the dimension regarding supervisors' expectations and support for the activities that promote patient safety. Although they gave relatively high positive responses regarding patient safety issues, Croatian managers were far more likely than their American colleagues to prioritize quantity over quality in assessing the value of work. As a natural consequence, Croatian managers are not including enhanced patient safety as a motivational strategy. Efforts to shift towards greater PSC in Croatian hospitals will not be as effective without managers leading by example.

Nonpunitive Response to Error was the dimension with the lowest percentage of positive responses not only in our sample, but also in most other studies using the HSOPSC^{8-14,24,30,31}. Our sample, as compared to the US, fell particularly far behind in this dimension, which suggests the influence of specific differences between the two cultures. Transitional societies, such as Croatian, carry a cultural burden of their former authoritarian and patriarchal systems in which fear created an important lever of power. This relationship to

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authority has been deep-rooted in the patterns of behavior of individuals and in the collective mindset. Interventions in this area should be planned and carried out with special care and patience, while respecting the cultural nuances of a given community. In addition to healthcare organizations, nursing schools, medical schools, and professional associations should all be considered as targets for this re-education initiative^{15,32}.

Conclusion

The insights gained from this research provide solid foundations for planning the improvement of patient safety in Croatian hospitals. It is evident that at the level of hospital departments in Croatian hospitals the following components of PSC should be improved: nonpunitive response to error, teamwork, leadership and communication openness. At the hospital level, PSC has to be enhanced through improvements related to hospital leadership and staffing. It also implies the need for changes and improvements in the healthcare system as a whole. This process is further aided by following and adopting successful examples set in the US and other western countries^{5,29,33}. In countries across the world, the HSOPSC has proved to be a valuable tool for assessing the current and evolving state of development of PSC. As such, the HSOPSC is an indispensible tool to enhance and guide efforts for the improvement of PSC in Croatia and other transitional European societies.

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References

- Kohn L, Corrigan J, Donaldson M, editors. To Err is Human: Building a Safer Health System (Institute of Medicine report). Washington (DC): National Academy Press; 1999.
- Institute of Medicine. Crossing the Quality Chasm: a New Health System for 21st Century. Washington (DC): National Academy Press; 2001.

- Emanuel L, Berwick D, Conway J, Combes J, Hatlie M, Leape L, et al. What exactly is patient safety? In: Henriksen K, Battles JB, Keyes MA, Grady ML, editors. Advances in Patient Safety: New Directions and Alternative Approaches (Vol. 1: Assessment). Rockville (MD): Agency for Healthcare Research and Quality; 2008.
- de Vries EN, Ramrattan MA, Smorenburg SM, Gouma DJ, Boermeaster MA. The incidence and nature of in-hospital adverse events: a systematic review. Qual Saf Health Care. 2008;17(3):216-23. Medline: 2569153 doi:10.1136/qshc.2007. 023622.
- Pronovast PJ, Sexton JB. Assessing safety culture: guidelines and recommendations. Qual Saf Health Care. 2005;14(4): 231-3. doi: 10.1136/qshc.2005.015180.
- Leape L, Berwick D, Clancy C, Conway J, Gluck P, Guest J, *et al.* Transforming healthcare: a safety imperative. Qual Saf Health Care. 2009;18(6):424-8. Medline: 19955451 doi: 10.1136/qshc.2009.036954.
- Hospital Survey on Patient Safety Culture. March 2011. Agency for Healthcare Research and Quality, Rockville (MD) [Internet]. 2011 Mar [cited 2013 Apr 29]; Available from: http:// www.ahrq.gov/qual/patientsafetyculture/hospsurvindex.htm
- European Society for Quality in Healthcare Office for Quality Indicators. Patient safety culture instruments used in member states. EUNetPAS Publications [Internet]. 2010 Mar [cit-ed 2014 Nov 7]; [screen 5-112]. Available from: http://ns208606.ovh.net/~extranet/images/EUNetPaS_Publications /eunetpas-report-use-of-psci-and-recommandations-april-8--2010.pdf
- Bodur S, Filiz E. Validity and reliability of Turkish version of "Hospital Survey on Patient Safety Culture" and perception of patient safety in public hospitals in Turkey. BMC Health Serv Res. 2010;28:10-28. Medline: 2835702 doi: 10.1186/1472-6963-10-28.
- El-Jardali F, Jaafar M, Dimassi H, Jamal D, Hamdan R. The current state of patient safety culture in Lebanese hospitals: a study at baseline. Int J Qual Health Care. 2010;22(5):386-95. Medline: 20699233 doi: 10.1093/intqhc/mzq047. Epub 2010 Aug 10.
- Chen I-Chi, Li Hung-Hui. Measuring patient safety culture in Taiwan using the Hospital Survey on Patient Safety Culture (HSOPSC). BMC Health Serv Res. 2010;10:152. Medline: 20529246 doi: 10.1186/1472-6963-10-152.
- Ito S, Seto K, Kigawa M, Fujita S, Hasegawa T, Hasegawa T. Development and applicability of Hospital Survey on Patient Safety Culture (HSOPS) in Japan. BMC Health Serv Res. 2011;11:28. Medline: 3042910 doi:10.1186/1472-6963-11-28.
- Šklebar I, Šklebar D. Patient safety culture assessment (Summary in English). Medix. 2010;86:157-61. (in Croatian)
- Robida A. Hospital Survey on Patient Safety Culture in Slovenia: a psychometric evaluation. Int J Qual Health Care. 2013; 25(4):469-75. doi: 10.1093/intqhc/mzt040. Epub 2013 Jun 4.
- World Health Organization. World Alliance for Patient Safety [Internet]. 2004 Oct 27 [cited 2014 Nov 27]; Available from: http://www.who.int/patientsafety/worldalliance/en/

- Brborović H, Šklebar I, Brborović O, Brumen V, Mustajbegović J. Development of a Croatian version of the US Hospital Survey on Patient Safety Culture questionnaire: dimensionality and psychometric properties. Postgrad Med J. 2014 Mar;90 (1061):125-32. doi: 10.1136/postgradmedj-2013-131814. Epub 2013 Dec 17.
- Hospital Survey on Patient Safety Culture: 2010 comparative database report. [Internet]. AHRQ Publication No. 10-0026. Agency for Healthcare Research and Quality, Rockville (MD). 2010 Mar [cited 2014 May 25]; Available from: http://www. ahrq.gov/qual/hospsurvey10/
- Hospital Survey on Patient Safety Culture: background and information for translators [Internet]. Agency for Healthcare Research and Quality, Rockville (MD). 2009 Sep [cited 2014 Jan 14]; Available from: http://www.ahrq.gov/qual/patientsafetyculture/infotranshsops.htm
- Sorra JS, Nieva VF. Hospital Survey on Patient Safety Culture. AHRQ Publication No. 04-0041. Agency for Healthcare Research and Quality, Rockville (MD) [Internet]. 2004 Sep [cited 2014 Oct 29]; Available from: http://www.ahrq.gov/qual/patientsafetyculture/
- Microsoft Excel Data Entry and Reporting Tool [Internet]. 2004 Oct 11 [cited 2014 Jan 14]; Available from: http://www. premierinc.com/quality-safety/tools-services/safety/topics/culture/survey.jsp
- IBM SPSS Statistics 19.0.0.1 [Internet]. 2011 Jan 21 [cited 2014 Mar 15]; Available from: http://www.spss.com/
- DeJoy D, Murphy L, Gershon R. The influence of employee, job/task, and organizational factors on adherence to universal precautions among nurses. Int J Ind Ergon. 1995;16:43-55. doi:10.1016/0169-8141(94)00075-E
- 23. Hannah KL, Schade CP, Lomely DR, Ruddick P, Bellamy GR. Hospital administrative staff vs. nursing staff responses to the AHRQ Hospital Survey on Patient Safety Culture. In: Henriksen K, Battles JB, Keyes MA, Grady ML, editors. Advances in patient safety: new directions and alternative approaches (Culture and Redesign; vol 2). Rockville (MD): Agency for Healthcare Research and Quality; 2008.
- 24. Waterson P, Griffiths P, Stride C, Murphy J, Hignett S. Psychometric properties of the Hospital Survey on Patient Safety Culture: findings from the UK. Qual Saf Health Care. 2010; 19(5):e2. Medline: 20211960. doi: 10.1136/qshc.2008.031625. Epub 2010 Mar 8.
- Sorra JS, Dyer N. Multilevel psychometric properties of the AHRQ Hospital Survey on Patient Safety Culture. BMC Health Serv Res. 2010;10:199. doi:10.1186/1472-6963-10-199
- 26. Surveys on Patient Safety Culture. Safety Culture Dimensions and Reliabilities [Internet]. Agency for Healthcare Research and Quality, Rockville (MD). [cited 2014 Mar 15]; Available from: http://www.ahrq.gov/legacy/qual/patientsafetyculture/ hospdim.htm.
- Triandis HC, Gelfand MJ. Converging measurement of horizontal and vertical individualism and collectivism. J Pers Soc Psychol. 1998;74(1):118-128. doi: 10.1037/0022-3514.74.1.118
- 28. Golubic R, Milosevic M, Knezevic B, Mustajbegovic J. Workrelated stress, education and work ability among hospital nurs-

es. J Adv Nursing. 2009;65:2056-66. doi: 10.1111/j. 1365-2648.2009.05057.x.

- 29. 2014 User Comparative Database Report: Hospital Survey on Patient Safety Culture. [Internet]. Agency for Healthcare Research and Quality, Rockville, MD. March 2014. [cited 2014 Dec 15]; Available from: http://www.ahrq.gov/professionals/ quality-patient-safety/patientsafetyculture/hospital/2014/index.html.
- 30. Smits M, Christiaans-Dingelhoff I, Wagner C, van der Val G, Groenwegen PP. The psychometric properties of the "Hospital Survey on Patient Safety Culture" in Dutch hospitals. BMC Health Serv Res. 2008;8:230. Medline: 2588576 doi: 10.1186/1472-6963-8-230
- Pheiffer Y, Manser T. Development of the German version of the Hospital Survey on Patient Safety Culture: Dimensionality and psychometric properties. Saf Sci. 2010;48:1452-62. doi: 10.1016/j.ssci.2010.07.002
- 32. Lucian Leape Institute at the National Patient Safety Foundation. Unmet Needs: Teaching Physicians to Provide Safe Patient Care [Internet]. 2011 [cited 2014 Nov 7]; Available from: http://www.npsf.org/LLI-Unmet-Needs-Report/
- 33. Vlayen A, Hellings J, Claes N, Peleman H, Schrooten WA. A nationwide Hospital Survey on Patient Safety Culture in Belgian hospitals: setting priorities at the launch of a 5-year patient safety plan. BMJ Qual Saf. 2012;21:760-7. doi:10.1136/ bmjqs-2011-051607

Sažetak

KAKO POBOLJŠATI BOLESNIKOVU SIGURNOST U HRVATSKIM BOLNICAMA?

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Kultura bolesnikove sigurnosti ima presudan utjecaj na sigurnost bolesnika u procesu liječenja. Istraživanje je provedeno u cilju procjene stanja kulture bolesnikove sigurnosti u hrvatskim bolnicama te usporedbe s bolnicama u SAD. Istraživanjem su obuhvaćene tri javne opće bolnice u Hrvatskoj primjenom hrvatskoga prijevoda upitnika Hospital Survey of Patient Safety Culture (HSOPSC) koji je podijeljen svim zdravstvenim radnicima i administrativnom osoblju. Usporedba dobivenih rezultata u hrvatskim i američkim bolnicama provedena je pomoću t-kvadrat testa. Analiza rezultata ukazuje na statistički značajne razlike u svih 12 dimenzija bolesnikove sigurnosti koje mjeri upitnik. U deset dimenzija razlika je negativna, a u dvije od njih pozitivna. Pozitivnu razliku nalazimo u kategoriji primopredaja službe i premještaji i kategoriji opća percepcija bolesnikove sigurnosti. Među kategorijama s negativnom razlikom ističu se: nekažnjavajući pristup neželjenom događaju, učestalost prijavljivanja neželjenih događaja, komunikacijska otvorenost, timski rad unutar odjela, pružanje povratnih informacija i raspravljanje o neželjenom događaju, potpora bolničke uprave mjerama za bolesnikovu sigurnost i popunjenost osobljem. Istraživanje pokazuje da HSOPSC može biti koristan i prikladan alat za procjenu bolesnikove sigurnosti, otkrivanje sastavnica kulture sigurnosti koje treba poboljšati te za uspoređivanje na nacionalnoj i međunarodnoj razini. Općenito, kultura bolesnikove sigurnosti među hrvatskim bolničkim osobljem pokazuje se značajno nižom nego kod američkog bolničkog osoblja. Rezultati istraživanja ukazuju na potrebu uspostave održivog sustava bolesnikove sigurnosti u okviru hrvatskoga zdravstvenog sustava kojim bi se poboljšale najkritičnije komponente kao što su: nekažnjavajući pristup neželjenom događaju, rukovođenje, timski rad, komunikacijska otvorenost i popunjenost osobljem.

Ključne riječi: Bolesnikova sigurnost – standardi; Ankete i upitnici; Organizacijska kultura; Hrvatska; Društveni problemi; Kvaliteta zdravstvene zaštite; Bolnice; Vrednovanje