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OUTCOME OF PATIENT SAFETY CULTURE USING THE HOSPITAL SURVEY ON PATIENT SAFETY CULTURE (HSOPSC) IN ASIA: A SYSTEMATIC REVIEW WITH META ANALYSIS

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ABSTRACT

Background: Patient safety is a critical component of the quality of health care. In the process, it allows health services, especially hospitals, to well understanding aspects of patient safety. Hospital Survey on Patient Safety Culture (HSOPSC) was established to examines patient safety culture and the correlation between patient safety culture composite hospitals in Asia. This study aims to assess patient safety culture which using Hospital Survey on Patient Safety Culture (HSOPSC).

Methods: Systematic Review and meta-analysis method by using PRISMA-P 2015 were used in this study. We were collected through searching electronic literature from Elsevier, Science Direct, PubMed, and Google Scholar by using keywords "Hospitals Survey on Patient Safety Culture" and "HSOPSC Asia" published from January 2009 to January 2019. English language papers only are used as the inclusion criteria.

Results: Totally, 160 articles were found and after deleting duplicates document, 126 journals left. Finally, 16 eligible journals which fulfil the inclusion criteria were reviewed. The HSOPSC overall average percentage positive response rate for HSOPSC was 53.58. Of the 12 patient safety composites evaluated, the highest average score is teamwork within unit 74.29 ± 11.92 . The bivariate analysis used Spearman correlation for correlation between patient safety composite, the composite Frequency of Event Reported the weakest correlation with teamwork within unit ($r = 0.052$), and the composite teamwork across unit had the strongest correlation with teamwork within unit ($r = 0.761$).

Conclusion: Patient safety culture is crucial toward improving overall performance and quality of services in hospitals, especially teamwork within unit. Culture safety patient at the hospital must be applied in every hospital for quality improvement, especially for increasing patient safety culture.

Keywords: Patient Safety Culture Hospital, Patient Safety, HSOPSC Asia

INTRODUCTION

Health services are growing rapidly in the last 20 years. An important issue that must be considered in health services is about providing safe medical care in medical services and complex systems, full of pressure and fast moving. Various countries in the world have recognized that patient safety is an important thing to improve the quality and safety of health services [1].

Patient safety according to Permenkes No. 17 of 2017 is a system that makes patient care safer, including risk assessment, identification and management of patient risk, reporting and analysis of incidents, ability to learn from incidents and follow-up, and implementation of solutions to minimize risk arising

and prevent injuries caused by a mistake is done to execute the action or not take the action that should be taken [2]. In 2007, the World Health Organization declared patient safety a priority for health services. Every health care provider is expected to uphold the safety value of patients. In the Law of the Republic of Indonesia no. 44 of 2009 concerning Hospitals explains that hospitals are required to apply patient safety standards and apply in incident reporting. Analysis and application of problem solving is expected to reduce the number of Adverse Events [3].

Patient safety has been widely recognized in various countries, with global intentions being implemented by the World Alliance for the Safety of Patients from WHO [4]. The role of safety culture is considered important in patient safety. The patient safety culture is defined as the product of individual and group values, attitudes, perceptions, competencies, and behavioral patterns, which determine commitment and style and achievement of organizational health and safety management [5].

According to data from the World Health Organization, in developed countries as many as 1 in 10 patients are at risk of experiencing incidents of patient safety when receiving hospital care with 50% of incidents being prevented. Whereas in low and middle income countries the rate of occurrence of Adverse Event is 8%, of which 83% can be prevented and 30% has the potential to cause death [6].

Prevalence studies show that unsafe care arises in various countries in the world, but also in the Asian region, especially from low-resource countries. The safety and quality of patient care must be understood in the unique political and social cultural context of a health system in developing research for intervention strategies [7].

Developing a Culture of Safety is a core element of many effort to improve patient safety and care quality. Developing a culture of safety is a core element of many efforts to improve patient safety and care quality in acute care settings. Several studies show that safety culture and the related concept of safety culture are related to such clinician behaviours as error reporting, reductions in adverse events, and reduced mortality. Accreditation bodies identify leadership standards for safety culture measurement and improvement [8]. An assessment of the patient safety culture globally is needed by international accreditation organizations. The development of a patient safety culture assessment is one of the recommendations made by the Institute of Medicine to facilitate hospitals to improve patient safety. This assessment of patient safety culture is important, because this is the first stage in the development of a safety culture. In the process, it allows health services, especially hospitals, to get clear images of aspects of patient safety that require immediate attention, then identify the strengths and weaknesses of safety culture in health care organizations, and provide information on problems that occur in their patient safety culture at that [9].

The safety culture of an organization is a product of individual and group values, attitudes, perceptions, competencies, and behavioral patterns that determine commitment to, and style and skills, organizational health and safety management. Organizations that have a positive safety culture are characterized by established communication on the basis of trust, with shared perceptions of the importance of safety, with confidence in the effectiveness of preventive measures [10]. Developing a patient safety culture is one of the recommendations for hospitals to improve patient safety. In developing a safety culture, the stage of assessing safety culture is the first to go through. This allows a health service organization to get a view on aspects of patient safety that require immediate action, identify the strengths and weaknesses of safety culture in their organization, and help health care units identify existing patient safety problems [11].

According to The Health Foundation (2011) the frequently used questionnaires are the Safety Attitude Questionnaire (SAQ), the Patient Safety Culture in Healthcare Organizations (PSCHO), the Patient Safety Culture Survey Hospital (HSOPSC), the Safety Climate Survey (SCS) and the Manchester Patient Safety Assessment (MPSA). HSOPSC focuses on Hospitals, and has been used in many hospitals in US, UK, Belgium, China, Netherland, Turkey, Saudi Arabia, Spain, Lebanon etc, compared to other questionnaires which are mostly used only in the US and UK. Psychometric properties have been tested

on HSOPSC, and issues with staffing scale identified. Other key strengths for HSOPSC is can compare with other countries and industries [12].

Mesuring patient safety culture using Hospital Survey on Patient Safety Culture (HSOPSC) developed by Agency for Healthcare Research and Quality (AHRQ) claim that HSOPSC measures group culture and not just individual attitudes. In addition, the results have implications for interventions on patient safety culture. Improvement efforts should be directed at their most relevant organisational level. In general, improvement efforts on patient safety culture should be addressed at the unit level, rather than the individual or hospital level [13].

In measuring patient safety culture, a hospital survey of patient safety culture was developed by the Agency for Healthcare Research and Quality (AHRQ) and has been widely used. In the Hospital Survey on Patient Safety Culture (HSOPSC) questionnaire there were 42 items that had been grouped into 12 composite sizes. In these composites, composites can be seen as influential in the application of a patient safety culture. With this, the aim of this study was to find the most influential composite for the application of the most supportive patient safety culture and composite.

METHODS

Search Strategy

In this article, a systematic review and meta-analysis is used using PRISMA-P 2015 (Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols 2015) [15]. We search Elsevier, Science Direct, PubMed, and Google Scholar electronic databases.

Data search was started on March 2, 2019 and completed on April 18, 2019. The author uses the keywords "Hospitals Survey on Patient Safety Culture" and "HSOPSC Asia" for the journal period from January 2009 - January 2019. We limit the topic of journals to public health, specifically about patient safety culture in Asia Hospitals using the HSOPSC questionnaire to measure the patient safety culture at the hospital.

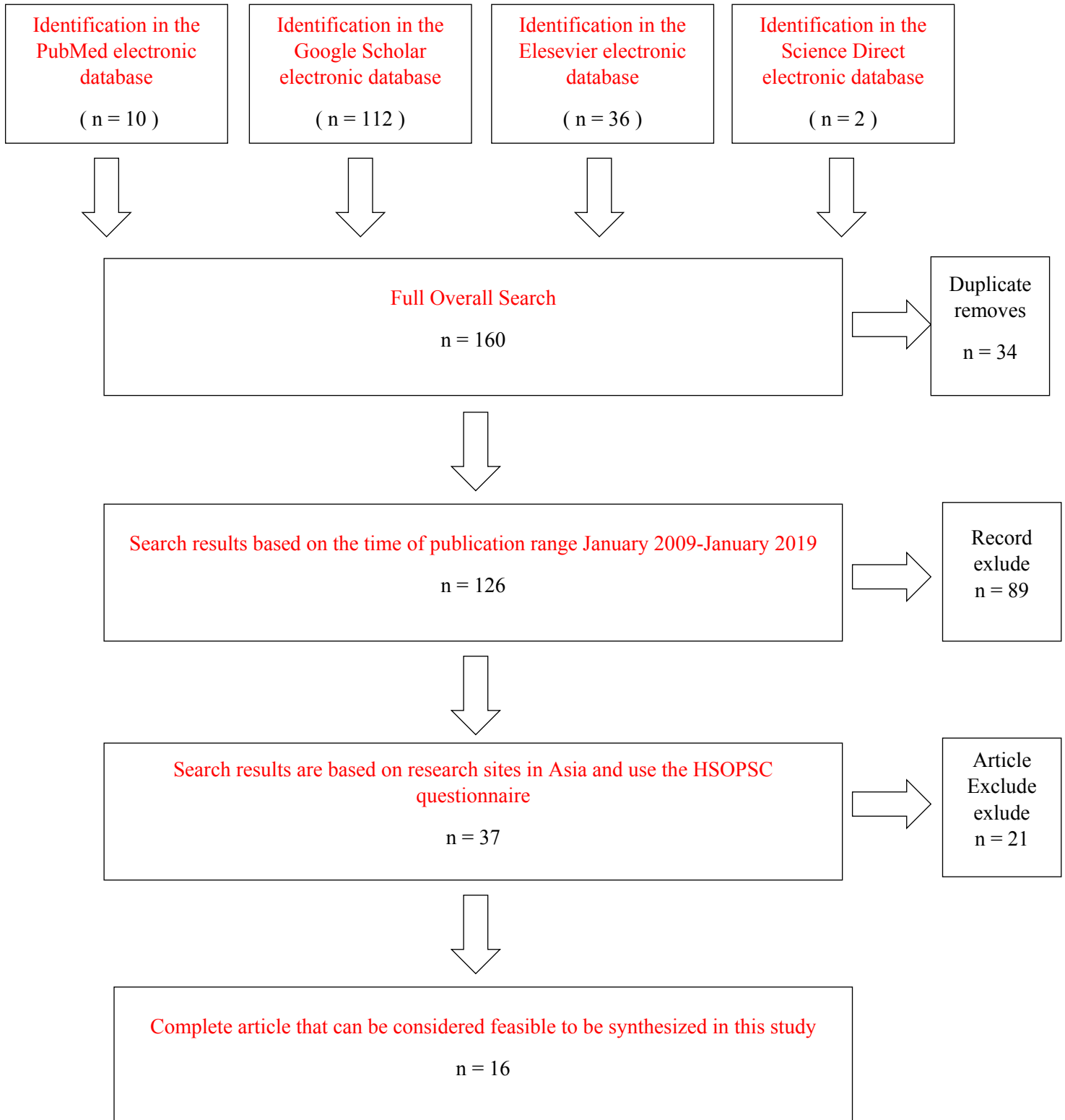
Criteria for inclusion and exclusion

The author determines the inclusion criteria are journals that use English, published between the range of January 2009 - Januari 2019, complete journal texts, using the HSOPSC questionnaire in his research, and carried out at the Hospital. While the exclusion criteria from this study were articles reported in languages other than English, published before January 2009, patient safety without culture, and using a patient safety culture measurement questionnaire in addition to the Hospital Survey on Patient Safety Culture (HSOPSC).

Search result

Using the keywords "Hospitals Survey on Patient Safety Culture" and "HSOPSC Asia", we obtained a total of 160 articles from four electronic databases. From the overall search results using 4 databases, the author filters to delete duplicate documents and can filter as many as 126 journals. Then the second stage was carried out screening based on the time of publication with a range of January 2009 - January 2019 and obtained as many as 37 documents that were feasible. Furthermore, screening documents is specifically based on the place of research, specifically in Asian hospitals that use the HSOPSC questionnaire to measure patient safety culture, and obtained 16 eligible journals. Authors took 16 articles to be systematically reviewed.

Figure 1. Flowchart PRISMA-P 2015



RESULTS

Of the four electronic databases that were searched, a total of 160 articles were obtained. By using PRISMA-P 2015 (Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols 2015), there are 18 articles that comply with the inclusion criteria. From the articles that have been collected the number of samples in the study was 30.147 respondents in 8 countries in Asia. The research location is based in Asia. The method used in sampling was a cross-sectional research method, and all studies used a standard patient safety culture questionnaire from AHRQ, namely *Hospital Survey on Patient Safety Culture* (HSOPSC).

In HSOPSC there are 42 items measured in 12 composite patient safety cultures. Each composite was given a score using a 5 point scale that reflected the tendency level to agree.

Table 1. Result of Positive Result HSOPSC for Asia

No	HSOPSC COMPOSITE	Teamwork within units (%)	Organizational Learning-Continuous	Feedback and Communication About	Teamwork across unit (%)	Supervisor/Manager expectation and actions	Management Support for Patient Safety (%)	Handoffs and transitions (%)	Frequency of Events Reported (%)	Overall Perceptions of Patient Safety (%)	Communication Openness (%)	Staffing (%)	Nonpunitive Response to Error (%)	Mean For Each Study (%)	Sample Size
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
1	Ramos and Calidgid, Filipina, 2018 (Government Hospital Philippines) [20]	91.50	86.89	76.32	68.77	67.34	60.28	55.97	54.12	50.78	48.36	27.55	17.65	52.17	292
2	Chen and Li, Taiwan, 2010 (Hospitals in Taiwan) [21]	94	84	59	72	83	62	48	57	65	58	39	45	63.83	788
3	El-Jardali et al, Lebanon, 2010 [22]	82.3	78.3	68.1	56	66.4	78.4	49.7	68.2	72.5	57.3	36.8	24.3	61.5	6.807



No	HSOPSC COMPOSITE	Teamwork within units (%)	Organizational Learning-Continuous	Feedback and Communication About	Teamwork across unit (%)	Supervisor/Manager expectation and actions	Management Support for Patient Safety (%)	Handoffs and transitions (%)	Frequency of Events Reported (%)	Overall Perceptions of Patient Safety (%)	Communication Openness (%)	Staffing (%)	Nonpunitive Response to Error (%)	Mean For Each Study (%)	Sample Size
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
4	Arabloo et al, Iran, 2012 [23]	65	62	56	53	61	54	60	58	60	53	47	44	56.08	145
5	Aboul-Fotouh et al, Egypt, 2012 [24]	58.1	78.2	39.7	38	46.4	27.2	24.6	33.4	33.9	34.6	49.3	19.5	40.24	510
6	Abdi et al, Iran, 2010 [25]	47.2	19.5	19.9	18.2	27.5	24	19.9	14.1	15	29.7	35	17.8	23.98	311
7	Agharahi mi et al, Iran, 2012 [26]	67.6	70.6	63.8	61.4	72.8	62.2	59.4	63.4	62	56.4	59.4	68.8	69.98	94
8	Al-Ahmadi, Saudi Arabia, 2009 [27]	69.9	75.9	63.3	56.3	64	65.4	47.6	56.2	51.4	44.2	31.2	21.1	53.86	1.224
9	Nie et al, China, 2013 [28]	84	88	50	66	63	69	0	0	55	65	45	60	53.75	1.160
10	Fujita et al, Japan, 2013 [29]	70	55	53	44	62	52	35	68	53	49	37	43	51.75	6.963



No	HSOPSC COMPOSITE	Teamwork within units (%)	Organizational Learning-Continuous	Feedback and Communication About	Teamwork across unit (%)	Supervisor/Manager expectation and actions	Management Support for Patient Safety (%)	Handoffs and transitions (%)	Frequency of Events Reported (%)	Overall Perceptions of Patient Safety (%)	Communication Openness (%)	Staffing (%)	Nonpunitive Response to Error (%)	Mean For Each Study (%)	Sample Size
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
11	Fujita et al, Taiwan, 2013 [29]	79	81	44	51	65	58	39	33	52	38	36	29	50.42	10.019
12	Izadi et al, Iran, 2013 [30]	75	73	70	62	76	65	69	66	67	68	48	54	66.08	196
13	Gunes et al, Turki, 2015 (University Hospitals in Turkey) [31]	82.3	70.1	59.8	53.1	52.1	54.7	47.4	32	52.6	50.8	33.8	26.8	51.29	228
14	Gunes et al, Turki, 2015 (General Hospital in Turkey) [31]	77.5	66.9	56.4	46.8	46.9	50.7	43.5	25.5	49.8	46.6	37.2	22.8	47.52	326
15	Ravaghi et al, Iran, 2012 [32]	62.8	65	45.4	45.8	53.8	44.3	57.2	40.5	49.2	37.3	12.2	14.8	44.03	216
16	Baghaee et al, Iran, 2011 [33]	80	69	56	55	67	49	62	42	59	45	36	31	54.25	500
17	Azar et al, Iran, 2010 [34]	67	66	63	62	66	62	61	61	64	63	57	51	61.92	145

No	HSOPSC COMPOSITE	Teamwork within units (%)	Organizational Learning-Continuous	Feedback and Communication About	Teamwork across unit (%)	Supervisor/Manager expectation and actions	Management Support for Patient Safety (%)	Handoffs and transitions (%)	Frequency of Events Reported (%)	Overall Perceptions of Patient Safety (%)	Communication Openness (%)	Staffing (%)	Nonpunitive Response to Error (%)	Mean For Each Study (%)	Sample Size
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
18	Al-Ahmadi, Saudi Arabia, 2010 [35]	84	87	77	50	70	74	61	63	59	60	27	22	61.17	223

From the data presented in table 1, it can be observed for the highest positive result on HSOPSC obtained at number 94, that is composite teamwork within units. These results were obtained in the Chen and Li, Taiwan, 2010 (Hospitals in Taiwan) study with a total sample of 788 including physicians, nurses, and non-clinical staff. While for the lowest positive result on HSOPSC obtained at number 0, namely composite Handoffs and Transitions and Frequency of Events Reported, this result was obtained in the study of Nie et al, China, 2013 with a sample of 1.160 consisting of nurse and clinician.

From table 1 data, it can be seen if the distribution of the 12 composite values is lowest in Abdi et al, Iran, 2010 with an average value of 12 composites of 23.98. And the 12 composite data is the highest, the average positive response is in the Agharahimi et al, Iran, 2012 study, which is 69.98.

To be able to interpret the positive response numbers of each composite, the average positive response will be drawn from all studies and will be compared with the average positive response from Hospital results. Survey on Patient Safety Culture: 2018 User Database Report in table 2

Average percentage of positive responses from each composite has been calculated and presented in Table 2.

Table 2. Average Percentage Positive Response of HSOPSC for Asia

HSOPSC Composite	AHRQ, 2018 [37]	Mean	Std.Dev	Minimum	Maximum
Teamwork Within Unit	82	74.2889	11.92387	47.20	94.00
Organizational Learning – Continuous Improvement	72	70.9106	15.85136	19.50	88.00
Feedback and Communication About Error	69	56.7067	13.81456	19.90	77.00
Teamwork Across Unit	62	53.2983	12.49440	18.20	72.00
Supervisor/Manager Expectations and Actions Promoting Patient Safety	80	61.6800	12.71068	27.50	83.00
Management Support for Patient Safety	72	56.2322	14.11094	24.00	78.40
Handoffs and Transitions	48	46.6817	17.62463	0.00	69.00
Frequency of Events Reported	67	46.4122	19.92543	0.00	68.20
Overall Perception of Patient Safety	66	53.9544	12.99998	15.00	72.50
Communication Openness	66	50.2367	10.88256	29.70	68.00
Staffing	53	38.5806	11.24954	12.20	59.40
Nonpunitive Response Error	47	34.0306	16.45396	14.80	68.80
Average	65	53.5844			

The overall average percentage score for positive response of patient safety culture was 53.58, and if benchmarked with the AHRQ Hospital Survey on Patient Safety Culture 2018 User Database Report which has an average positive response value of 65, then the culture of patient safety in Asian hospitals still has a number below that. Of the 12 HSOPSC composites in Asian hospitals, compared to 12 AHRQ Hospital composites Survey on Patient Safety Culture 2018 User Database Report all the positive average values of the patient safety culture were below the average data from AHRQ. From table 2, we can also see if the highest variation in the average value of the positive response on the HSOPSC questionnaire is on the Frequency of Events Reported composite with a standard deviation value of 19.93.

Provides the average percentages of positive responses for the 12 dimension that the HSOPSC measure. The dimension with the highest percentages of positive responses, was teamwork within units with averages positive response equal to 74.29 ± 11.92 with a minimum value of 47.20 and a maximum value of 94.00. The highest values for these composites were in the Chen and Li study, Taiwan, 2010 (Hospitals in Taiwan), while the lowest values for this composite were in the study of Abdi et al, Iran in 2010.

The highest dan the lowest positive response of each findings shown in table 1 are summarized below :

- a. Teamwork within Unit, the highest positive response 94 and the lowest positive response 47.2;
- b. Organizational Learning – Continuous Improvement, highest positive response 88, and the lowest positive response 19.5;
- c. Feedback and Communication About Error, highest positive response 77, and the lowest positive response 19.9;
- d. Teamwork Across Unit, highest positive response 72, and the lowest positive response 18.2;
- e. Supervisor/Manager Expectations and Actions Promoting Patient Safety, highest positive response 83, and the lowest positive response 27.5;
- f. Management Support for Patient Safety, highest positive response 78.4, and the lowest positive response 24;
- g. Handoffs and Transitions, highest positive response 69, and the lowest positive response 0;
- h. Frequency of Events Reported, highest positive response 68.2, and the lowest positive response 0;
- i. Overall Perception of Patient Safety, highest positive response 72.5, and the lowest positive response 15;
- j. Communication Openness, highest positive response 68, and the lowest positive response 29.7;
- k. Staffing, highest positive response 59.4, and the lowest positive response 12.2;
- l. Nonpunitive Response Error, highest positive response 68.8, and the lowest positive response 14.8.

In HSOPSC, you can see 12 composites each other support for forming culture safety patient, then correlation significant observed between all composite culture safety patient, difference power correlation (in test statistics correlation Pearson and Spearman according normality of the data) could be seen on table 3 and table 4. This correlation test is used to determine whether the increase in the average composite positive response teamwork within units is followed by an increase in the average of other positive composite responses in HSOPSC.

Table 3. Pearson Correlation HSOPSC Composite with Teamwork Within Unit

HSOPSC Composite	Teamwork Within Unit Pearson r
Organizational Learning – Continuous Improvement	.760**
Feedback and Communication About Error	.671**
Teamwork Across Unit	.761**

HSOPSC Composite	Teamwork Within Unit Pearson r
Supervisor/Manager Expectations and Actions Promoting Patient Safety	.673**
Management Support for Patient Safety	.698**
Handoffs and Transitions	.183
Communication Openness	.527*
Staffing	-0.173
Nonpunitive Response Error	.101

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 4. Spearman Correlation HSOPSC Composite with Teamwork Within Unit

HSOPSC Composite	Teamwork Within Unit Spearman's rho
Frequency of Events Reported	0.052
Overall Perception of Patient Safety	0.372

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Based on the results of the composite correlation test teamwork within units with other composites in tables 3 and 4, the results are :

- Very Strong Correlation ($r = 0.76 - 1.00$) in composite teamwork across units ($r = 0.761$) and Organizational Learning - Continuous Improvement ($r = 0.760$).
- Strong correlation ($r = 0.51 - 0.75$) in composite Management Support for Patient Safety ($r = 0.698$), Supervisor / Manager of Expectations and Actions of Promoting Patient Safety ($r = 0.673$), Feedback and Communication Error ($r = 0.671$) and Communication Openness ($r = 0.527$).
- Moderate correlation ($r = 0.26-0.50$) in the composite Overall Perception of Patient Safety ($r = 0.372$).
- Weak correlation / No correlation ($r = 0.00 - 0.25$) in the Handoffs and Transitions composite ($r = 0.183$), Staffing ($r = -0.173$), Nonpunitive Response Error ($r = 0.101$), and Frequency of Events Reported ($r = 0.052$).

In the bivariate correlation test, it was found that composite teamwork across units had a strong correlation with composite teamwork within units ($r = 0.761$). This shows if solid team work is also done inside and outside the unit. All units in the hospital coordinate with each other in providing the best care for patients. Findings that show a positive correlation of safety culture with an effective team structure. Effective teamwork can be achieved in the openness of communication, non-punishment responses to errors in the presence of feedback and communication of errors[16].

DISCUSSION

One of the most valid and reliable tools for measure patient safety culture it precisely and appropriately is HSOPSC. The HSOPSC survey by AHRQ has been used to meet the increasing demand for assessment of patient safety culture. Overall, the average positive response for the safety culture composite of 12 patients was 53.58%. The average percentage of positive responses is still far below the average value of the Hospital Survey on Patient Safety Culture: 2018 User Database Report which

has an average positive response value for safety culture composites of 12 patients by 65% from 630 Hospitals. It indicates that hospital's staff in Asia still need to increase their positive response positively to the patient safety culture in their hospitals. The HSOPSC has 12 composites, which have the highest average percentage response positive is Teamwork within Unit and the lowest average percentage response positive is Nonpunitive Response Error.

The highest average percentage of positive response was found in composite teamwork within units with a value of 74.29 and in the Chen and Li study, Taiwan, 2010 (Hospitals in Taiwan) the highest value was obtained 94. This paper was said to be similar to the result reported in US, Belgium, Dutch, and composites Survey on Patient Safety Culture 2018 User Database Report. While in the study of Abdi et al, Iran in 2010, the average value of the lowest percentage of positive responses in composite teamwork within units of 47.2 was said in the paper because the patient safety scores of selected hospitals were considerably low.

The lowest average percentage of positive response was found in composite Nonpunitive Response Error with a value of 34.03. That is showing that the staff avoid reporting their faults since they know about being charged otherwise. Since involving the staff in recognition and prevention is crucial, and also it is important to handle the healthcare services with possibly no mistakes or faults, environments with fear of punishment and penalties after mismanagement or delaying the promotion cannot increase the quality of patient's care. Giving the staff awards for reporting their faults, no punishment in case of errors, participation in patient's safety, and giving responsibility to the staff could be useful to improve non-punished response to errors in hospital.

In order support sustainability enhancement quality and safety patients, specifically in culture safety the patient. In table 1 has seen if composite Team Within Unit has role big in support culture safety the patient. In composite this, give service health at hospital feel team each other support, treat one with each other with respect, and work same as one solid team.

Correlation between composite on the HSOPSC survey results show composite Teamwork across unit have a very strong correlation with Teamwork within unit ($r=0.761$) it indicates that Hospital units cooperate and coordinate with one another to provide the best care for patients. Effective teamwork is very important for patient safety, so that a health service organization has a reliable and safe care environment, and this must be maintained in carrying out health services so that the patient safety culture continues to be good. Furthermore, Organizational Learning - Continuous Improvement have a very strong correlation too with Within Unit Teamwork ($r = 0.760$). This signifies in effort enhancement quality and safety patient, a team service solid health needs existence positive change from evaluation the same mistakes do and evaluated effectiveness [10].

The correlation that indicates a weak / no correlation is composite Handoffs and Transition composite ($r = 0.183$). This can be caused by a lack of facilities and equipment that are in accordance with available standards, improper chronological structure, excessive workload, and a small number of staff. Then, composite Staffing ($r = -0.173$), it shows that there are not enough staff to handle the workload and work hours are appropriate to provide the best care for patients.

Nonpunitive Response Error ($r = 0.101$), The AHRQ has stressed that hospitals need to create a culture where there is a nonpunitive response to error and the reporting of event is increasing. It is therefore important to have deliberate strategies to nurture leadership capacity that support blame-free, teamwork, and continuous organizational learning.

On Finally, the composite is considered the weakest correlation with teamwork within unit ($r = 0.052$) is composite frequency events reported. It includes mistakes of the following types are reported mistakes caught and corrected before affecting the patient, mistakes with no potential harm to the patient, and mistakes that could harm the patient but do not [10]. Inadequate manpower and the lack of systems aimed at patient safety, cultural differences in employee work values, an accusatory culture, and

intensive workload in the hospital may partly account for a low level of patient safety culture and reporting of event. In addition, because efforts to identify mistakes may be undervalued in Asia Hospitals culture, reporting event/error appears to be a process that is often avoided. Encouraging health care professional, to report event in a nonpunitive environment is crucial for improving patient safety [31].

The survey results presented in this report represent compilation of hospital survey data on patient safety culture in Asia publicly available and therefore provide a useful reference. The findings of this study have to be seen in light of some limitations, for this study is since these voluntary submitters are not a random sample of hospitals. Estimates based on this self-selected group may produce biased estimates of the population and it is not possible to compute estimates of precision from such a self-selected group. In other hand, this systematic review was restricted to English language publications only. However, the HSOPSC questionnaire has been validated by many countries that used this HSOPSC questionnaire in previous studies.

For increase patient safety culture in Asia's Hospital, there are several steps that need to be done to increase the average value of positive responses in composites that have a tendency to be increased. Hospital management must be able to create policies to support Handoffs and Transitions, Staffing, Nonpunitive Response Error, and Frequency of Events Reported so that in the future, patient safety culture can continue to increase.

CONCLUSION

In Policy application culture safety patient at hospital of Asia, internal strengthening of the team very needed. In create team service health at hospital's solid is needed a collaboration within and between teams, effort enhancement quality and safety patient and supervisor and support hospital management for give away evaluation if obtained happen incident not expected, as well appreciation to staff who have run culture safety patient with good. Handoffs and Transitions composite, Staffing, Nonpunitive Response Error, and Frequency of Events Reported must be placed on major intervention for quality improvement in hospital specifically for increase patient safety culture.

In development patient safety culture in Asia, it is necessary studied more go on frequency events reported in a way establish an environment which helps staff report mistakes and error. Meanwhile, hospitals in Asia also should have policy to allocate staff and working hours adequately, develop a nonpunitive culture, increase focus on patient transfer and transition through the different unit in the hospital.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this article.

REFERENCES

1. World Health Organization. WHO Patient Safety Curriculum Grade : Multi Professional Edition. Geneva:World Health Organization. 2011.
2. Kementrian Kesehatan Republik Indonesia (Indonesia Ministry of Health). Peraturan Menteri Kesehatan Republik Indonesia Nomor 11 Tahun 2017 tentang Keselamatan Pasien (Minister of Health Republic of Indonesia Regulation Number 11 of 2017 about Patient Safety). 2017.

3. Tristantia AD. Evaluasi Sistem Pelaporan Insiden Keselamatan Pasien di Rumah Sakit (The Evaluation of Patient Safety Incident Reporting System at a Hospital). *Jurnal Administrasi Kesehatan Indonesia*. 2018;6(2):83-94.
4. Tutiany, Lindawati, Krisanti P. Manajemen Keselamatan Pasien (Patient Safety Management). Kementerian Kesehatan Republik Indonesia (Minister of Health Republic of Indonesia Regulation Number 11 of 2017 about Patient Safety). 2017 [Internet]. Available from : <http://bppsdmk.kemkes.go.id/pusdiksdmk/wp-content/uploads/2017/11/MANAJEMEN-KESELAMATAN-PASIEN-Final-DAFIS.pdf> [diakses pada 20 April 2019]
5. World Health Organization. Patient safety. 2019. [Internet]. Available from <https://www.who.int/patientsafety/en/> [diakses pada 20 April 2019]
6. International Alliance of Patient's Organizations. World Health Organization's 10 Fact on Patient Safety. 2018. [Internet]. Available from <https://www.iapo.org.uk/news/2018/nov/6/world-health-organizations-10-facts-patient-safety> [Accessed 20 April 2019]
7. Harrison R, Cohen AWS, Walton M. Patient safety and quality of care in developing countries in Southeast Asia: a systematic literature review. *International Journal for Quality in Health Care*. 2015;24(4):240-54.
8. Weaver Sallie J, Lubomksi Lisa H, Wilson Renee F, et al. Promoting Culture of Safety as a Patient Safety Strategy : A Systematic Review. *Ann Intern Med*. 2013; 158 (5 0 2): 369-374.
9. Stavrianopoulos, Theodosios. The Development of Patient Safety Culture. *Health Science Journal*. 2012; 6(2):201-211.
10. Agency for Healthcare Research and Quality (AHRQ). AHRQ Hospital Survey on Patient Safety Culture : User's Guide. 2014. [Internet]. Available from : <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/patientsafetyculture/hospital/resources/hospcult.pdf> [Accessed 20 April 2019].
11. Jerdali FE, Dimassi H, Jamal D, Jaafar M, Hemadah N. Predictors and outcomes of patient safety culture in hospitals. *BMC Health Services Reserach*. 2011;11(45).
12. The Health Foundation. Evidence Scan : Measuring safety culture. Health Foundation. 2011.
13. Smits Marleen, Wagner Cordula. Measuring patient safety culture : An assessment of the clustering of responses at unit level and hospital level. *Quality and Safety in Healthcare*. 2009;18(4):292-296.
14. Chakravarty BA, Sahu MA, Biswas BM, Chatterjee SCK, Ruth S. A study of assessment of patient safety climate in tertiary care hospitals. *Medical Journal Armed Forces India*. 2015; 71(2):152-7.
15. Moher D, Shamsee L, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewartt LA. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *BioMed Central*. 2015; 4(1).
16. Kirwan M, Matthews A, Scott PA. The impact of the work environment of nurses on patient safety outcomes : a multi-level modelling approach. *International Journal of Nursing Studies*. 2012;50(2): 253-63.
17. Aghdash SA, Azar FE, Rezapour A, Mirnia K, Azami A, Saadati M. Patient Safety Culture : A Meta Analysis of Hospital Data. *International Journal of Hospital Research*. 2014,3(4):209-17.
18. Schweiger A, Offermanns G. Safety culture and teamwork to improve patient safety in mental healthcare in Austria. *European Journal of Public Health*. 2015;25(3):176-94.
19. Agency for Healthcare Research and Quality (AHRQ). Handoffs and Transitions. 2015. [Internet]. Available from : <https://psnet.ahrq.gov/perspectives/perspective/170/handoffs-and-transitions> [Accessed 21 April 2019]
20. Ramos RR, Calidgid CC. Patient safety culture among nurses at a tertiary government hospitals in the Philippines. *Applied Nursing Research*. 2018; (44): 67-75.
21. Chen IC, Li HH. Measuring patient safety culture in Taiwan using the hospital survey on patient safety culture. *BMC Health Services*. 2010,10(152).
22. 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. *International Journal for Quality in Health Care*. 2010, 22(5):386-95.
23. Arabloo J, Rezapour A, Azar FEF, Safari H, Mobasheri Y. Measuring patient safety culture in Iran Using the Hospital Survey on Patient Safety Culture (HSOPS): an Exploration of Survey Reliability and Validity. *International Journal of Hospital Research*. 2012; 1(1):15-28.
24. Aboul Fotouh A, Ismail N, Ez Elarab H, Wassif G. Assessment of patient safety culture among health-care providers at a teaching hospital in Cairo, Egypt. *East Mediterranean Health Journal*. 2012; 18(4):372-7.
25. Abdi Z, Maleki M, Khosravi A. Staff perception about patient safety culture in selected hospitals of Tehran University of Medical Sciences. *Payesh*. 2012; 10(4):411-9.

26. Agharahimi Z, Mostofi M, Jafari M, Raesi Ahmad A. Evaluation of staff attitudes about patients' safety culture in Noor & Ali Asghar hospitals in Isfahan-2011. *Hospital*. 2012, 11(3):17-26.
27. Al-Ahmadi TA. Measuring patient safety culture in Riyadh's hospitals: a comparison between public and private hospitals. *J Egypt Public Health Assoc*. 2009; 84(5- 6):479-500.
28. Nie Y, Mao X, Cui H, He S, Li J, Zhang M. Hospital survey on patient safety culture in China. *BMC Health Services Research*. 2013; 13(1):228.
29. Fujita S, Seto K, Ito S, Wu Y, Huang C-C, Hasegawa T. The characteristics of patient safety culture in Japan, Taiwan and the United States. *BMC Health Services Research*. 2013;13(1):20.
30. Izadi AR, Drikvand J, Ebrazeh A. The patient safety culture in Fatemeh Zahra Hospital of Najafabad, Iran. *Health Inf Manage*. 2013; 9(6):895-907.
31. Gunes UY, Gurlek O, Sonmez M. A Survey of the patient safety culture of hospital nurse in Turkey. *Collegian*. 2015; 23(2):225-32.
32. Ravaghi H, Marnani A, Hosseini AF, Takbiri A. The relationship between health care provider's perception of patient safety culture and patient's perceptions of medical error in teaching hospitals in Tehran:2011. *Journal of Health Administration*. 2012; 15(48):57-68.
33. Baghaee R, Nourani D, Khalkhali H, Pirnejad H. Evaluating patient safety culture in personal of academic hospitals in Urmia University of medical sciences in 2011. *Journal of Urmia Nursing Midwifery Faculty* 2012; 10(2):1.
34. Azar FEF, Rezapoor A, Khoushelmehr AT, Bayat R, Arabloo J, Rezapoor Z. Study of patient's safety culture in selected training hospitals affiliated with Tehran University of Medical Science. *Hospitals*. 2012; 11(2):55-64.
35. Al-Ahmadi HA. Assesment of patient safety culture in Saudi Arabian Hospitals. *Qual Safety Health Care*. 2010; 19(5):1-5.
36. Weaver Sallie J, Lubomksi Lisa H, Wilson Renee F, et al. Promoting Culture of Safety as a Patient Safety Strategy : A Systematic Review. *Ann Intern Med*. 2013; 158 (5 0 2): 369-374.
37. Agency for Healthcare Research and Quality. Hospital Survey On Patient Safety Culture 2018 User Darabase Report. 2018. [Internet]. Available from : <https://www.ahrq.gov/sites/default/files/wysiwyg/sops/quality-patient-safety/patientsafetyculture/2018hospitalsopsreport.pdf>. [Accessed 04 June 2019]