

## Analysis of Patient Safety Culture using Hospital Survey on Patient Safety Culture (HSOPSC) in Seven Countries

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### ABSTRACT

According to the World Health Organization (WHO) there are more than 134 million side effects that occur in the process of treatment of health care, because of unsafe treatments, there are 2.6 million people dead. This study aims to analyze the patient safety culture of seven countries as well as Ethiopia, United States, Philippines, Indonesia, Ghana, Iran, and Republic of China. This study uses the literature study method. The researcher focuses on positive responses based on the results of HSOPSC of those countries. The result of the study found that there were 37.74% of the lowest responses in the Staffing dimension and the highest responses were around 75.95% in teamwork within unit. The conclusion of the study found that the patient safety culture was around 53.18% of all dimensions, the lowest dimension was in staffing management, non-punitive response to errors, and frequency of events reported.

**Keywords :** Patient safety, HSOPSC, seven countries

### INTRODUCTION

Patient safety studies are currently a topic that has been widely discussed by researchers around the world, patient safety is very important to implement because patient and family dissatisfaction with health services is a common problem.<sup>1</sup> Patient safety is very important to study because it is one of the steps to improve the quality of health services.<sup>2</sup>

Health care in the United States is not as safe as it should be. There are at least 44,000, perhaps even 98,000 hospitalization deaths each year, due to possible malpractice that could have been prevented.<sup>3</sup> This number exceeds the number of deaths from cancer and traffic accidents. Accidents in the aviation industry only happen once in every 3 million flights. Compare this with medical accidents that occur in hospitals that affect 2 to 16 out of 100 patients, in other words, flying is 100,000 times safer than in a hospital.<sup>4</sup>

Implementation of patient safety is a right that must be known by patients and their families at healthcare facilities and every health worker who performs care for patients must carry out the implementation in accordance with applicable standards and procedures.<sup>5</sup> Incidents of patient safety in various countries in the world are noted to have increased

significantly, this is what makes patient safety care important in various health sectors.<sup>6</sup>

The World Health Organization (WHO) there are more than 134 million side effects that occur in the treatment process in health services, these cases occur in middle and low-income countries, because of unsafe treatment, resulting in more than 2.6 million people dying world.<sup>7</sup> In the National Academies of Sciences, Engineering, and Medicine, patient care is not focused on reliable people, and patients often report negative experiences in their interactions with healthcare workers. In fact, reported treatment experiences can sometimes be very harsh, from abusive treatment to harassment on the part of healthcare providers. People with low economies in the world are very vulnerable to this kind of humiliation.<sup>8</sup>

International data says as many as 4 out of 10 patients are disadvantaged in basic and outpatient health care. more than 80% of the hazards that occur can actually be prevented. The errors that most often occur are problems with diagnosis, prescription, and use of drugs in health services.<sup>9</sup> Member countries of the Organization for Economic Cooperation and Development (OECD) reported that 15% of all hospital expenses were caused by adverse events or unexpected events that occurred during the implementation of patient care.<sup>10</sup>

Patient safety culture in hospitals is the first step in ensuring the implementation of patient safety, one method for assessing patient safety culture is using the Hospital Survey On Patient Safety Culture (HSOPSC) method, this method is the form of a survey in which there are 12 items (11). Patient safety culture is also a requirement for accreditation in the implementation of health institutions, in this case, hospitals.<sup>11</sup>

Hutchinson (2006) said that there are a lot of questionnaires to measure patient safety culture in hospitals, but only two questionnaires are used, including the HSOPSC and the Safety Climate Questionnaire (SAQ).<sup>12</sup> The results of the HSOPSC psychometric test in Slovakia show the validity and can be accepted as an instrument for testing patient safety in health services.<sup>13</sup>

This study aimed to find the presentation of positive response results from various countries and analyze the average of those positive responses. The use of HSOPSC 12 dimension measurements is recommended for every researcher who wants to measure the positive aspects of implementing a patient safety culture by every healthcare worker (HCW) in the hospital.<sup>14</sup> HSOPSC is important to assess the attitudes and behaviors of HCW to create a culture of patient safety in hospitals.<sup>15</sup>

## METHOD

This research uses the literature study method, what is meant by library research is not just talking about reading and writing literature, but more than that, library research is all activities related to library data collection systems, reading, writing, and processing research materials. by detailing various aspects of the literature and then narrowing it down into one research material.<sup>16</sup>

This study focuses on aspects of patient safety culture measurement results using the Hospital Survey On Patient Safety Culture (HSOPSC) in seven countries including Ethiopia, United States, the Philippines, Indonesia, Ghana, Iran, and Republic of China. These seven countries were chosen because of the large number of references and research that can be the basis for taking and analyzing journals.

The data taken are the results of previous studies using the HSOPSC survey questionnaire which has been developed by the Agency for Healthcare Research and Quality (AHRQ). The results of the study from several journals, taken only on the positive response of each HSOPSC dimension from various countries, researchers found from seven countries there were about 37 journals that measured the culture of patient safety using

HSOPSC, then researchers took one journal each to represent each country, which according to researchers represented various aspects of the research results.

Researchers analyzed the results of positive responses on 12 HSOPSC dimensions in each journal and calculated the average presentation of the positive response results using the Average formula in the Microsoft Excel application. The journal searches used are mostly from Connected papers, the rest through a Google search for Schooler, Scopus, Garuda, SINTA, and so on which according to the researcher are relevant to the research topic. Each measurement of the positive response of the HSOPSC dimension is determined to be a number that more than 75% is considered strong and less than 50% is considered weak.<sup>14</sup>

Each of the 12 dimensions in this HSOPSC has 3-5 instruments each, so the total number of instruments is 42. Each instrument is measured by each researcher with a liker category of 1-5 points to ensure his or her agreement and disapproval of the instrument submitted.<sup>17</sup>, from these measurements results the researcher collects the results.

## RESULT AND DISCUSSION

The results of the study<sup>18</sup> in Ethiopia showed that the positive response of health workers to patient safety culture was still low with an average response of 42.57%, organizational learning and cooperation in one unit got the highest score of 72% with the lowest score being staff management. or staffing with a percentage of 26%. Research from<sup>19</sup>, in United States is lower with an average of 39.71% positive responses, and the highest presentation is Teamwork Within Hospital Units 66% with the lowest number still the same as previous research, namely in staff management or staffing with a presentation of 27%.

The average presentation of a positive response from health workers to the patient safety culture in the Philippines is 54.33% with the highest number still Teamwork Within Hospital Units and the lowest number being the response to Non-punitive response to errors at 17.65%.<sup>20</sup> In contrast to the results of the study<sup>21</sup>, the research was conducted in Indonesia with an average positive response rate of 69.3%, with the largest presentation on Management Support for Patient Safety which is 92.93%, and the lowest number in staff management or staffing, which is equal to 45.43%.

Research<sup>22</sup> in Ghana found that the average positive response of health workers to a patient safety culture was 51.71%, with the

strongest presentation being in Teamwork Within Hospital Units at 77% and the weakest being the Frequency of reported incident of 33%, the average of the study was not much different from<sup>23</sup> in Iran which got a presentation of 51.1% with the highest presentation on Organizational learning-continuous improvement of 65.43% and the lowest on the response to Non-punitive response to errors of

37.79%. In Republic of China, the research results obtained an average positive response of 63.57% with the highest presentation on the dimensions of Teamwork Across Hospital Units at 82% and the lowest in the response dimension to Non-punitive response to errors at 47%.<sup>24</sup> In full, the results of the research from each of the seven countries can be seen in the table below:

**Table 1. Results of Searching for Positive Responses 12 Dimensions of HSOPSC in Seven Countries**

Dimensions of Patient Safety Culture	Positive Response Seven Countries (%)						
	Ethiopi <sup>18</sup>	United States <sup>19</sup>	Philippines <sup>20</sup>	Indonesia <sup>21</sup>	Ghana <sup>22</sup>	Iran <sup>23</sup>	Republic of China <sup>24</sup>
Organizational learning-continuous improvement	72	61	86.89	91.73	65	65.43	72
Manager Expectations & Actions Promoting Safety	46	49	67.34	74.2	71	60.76	80
Teamwork Within Hospital Units	72	66	91.50	82.65	77	60.50	82
Overall Perception of Safety	44	44	50.78	71	51	58.8	66
Feedback and Communication about Error	46	37	76.32	71.63	43	55.10	69
Management Support for Patient Safety	47	39	60.28	92.93	53	52.71	72
Handoffs & Transitions	33	41	55.97	72.48	58	51.62	48
Teamwork Across Hospital Units	47	43	68.77	86.1	60	50.28	62
Frequency of reported incident	36	30	54.12	58.07	33	49.53	67
Communication Openness	42	35	48.36	60.67	44	49.25	66
Staffing	26	27	27.55	45.43	44	41.25	53
Non-punitive response to errors	33	30	17.65	72.48	37	37.79	47
<b>Overall average score</b>	42.57	39.71	54.33	69.3	51.71	51.1	63.57

The results of the study above are based on the search of each journal representing each country which is devoted to the results of data processing presentation of positive responses to 12 dimensions of HSOPSC.

Based on the literature search, the size of each of the 12 HSOPSC dimensions in seven countries was determined, for the dimension of not blaming when an error occurred, the largest positive response was in Indonesia with a presentation of 72.48%<sup>21</sup>, while for staff

management or staffing the largest positive response was in China with a percentage of 53%.<sup>24</sup> The dimension of Communication Openness in Republic of China also received the highest positive response from seven countries with a presentation of 66%.<sup>24</sup> The dimension of the Frequency of reported incident is also highest in China with a percentage of 67% positive responses<sup>24</sup>, while for the dimensions of Teamwork Across Hospital Units, the results show that Indonesia has the highest

presentation with a figure of 86.1%<sup>21</sup>, Handoffs & Transitions, Management Support for Patient Safety, Overall Perception of Safety and Organizational learning-continuous improvement are also highest in Indonesia when compared to six other countries. The dimensions of Feedback and Communication

about Error with the Teamwork Within Hospital Units dimension of one Philippine country unit have the highest presentation, the rest for the Manager Expectations & Actions Promoting Safety of the highest in Republic of China. More details can be seen in the Figure 1.

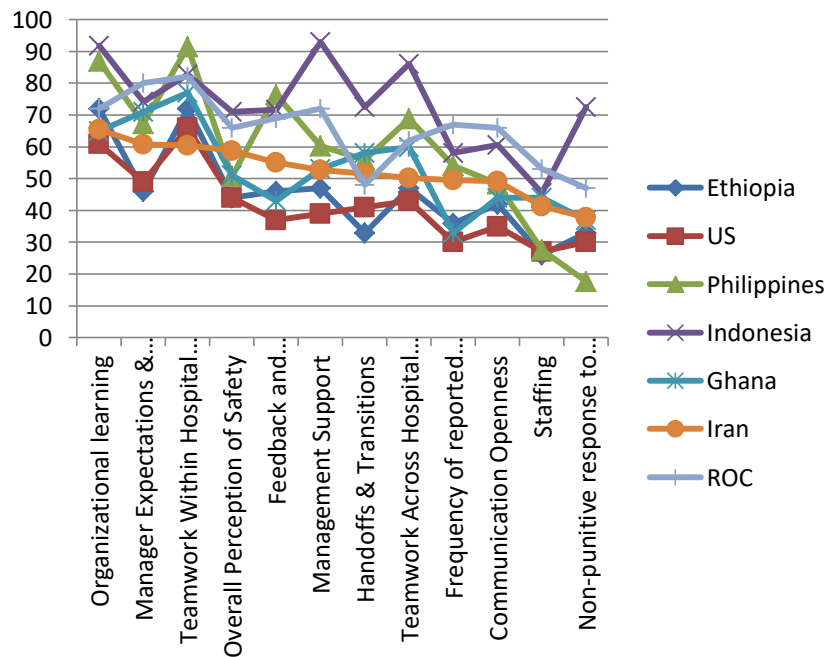


Figure 1. Diagram of Search Results for Seven Countries

Furthermore, the average results for each of the 12 HSOPSC dimensions can be seen in Figure 2 as follows:

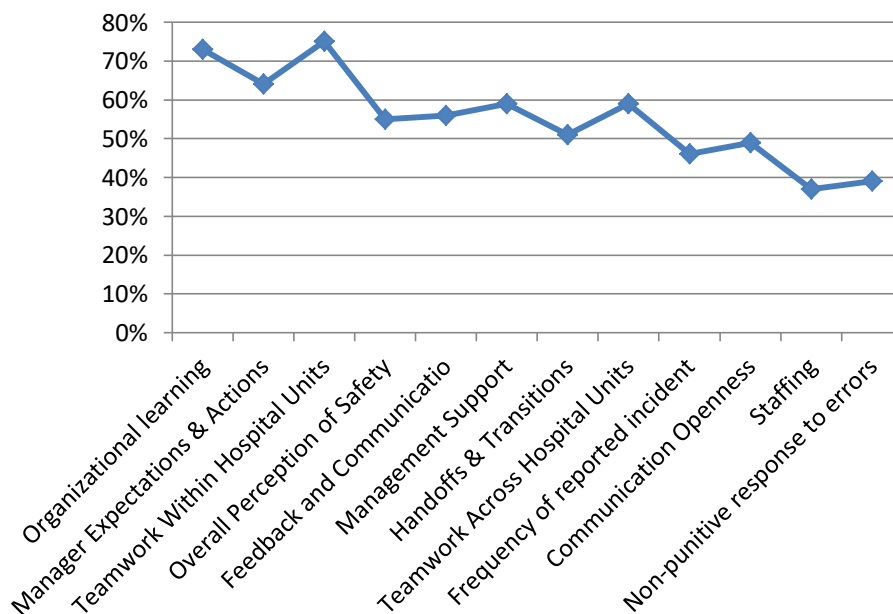


Figure 2. Average Analysis of the 12 Dimensions of the HSOPSC in Seven Countries

Analysis of various studies on a search of seven countries in the world got an average result of 53.18% positive response to patient safety culture, So it can be concluded that the behavior and attitudes of healthcare workers towards the culture of patient safety in seven countries are still at a moderate level and need to be improved, because they are still below 75% and slightly close to below 50% or weak. These results also show that there are several dimensions of HSOPSC in various countries that are still below 50% or can be said to be weak in the attitudes and behaviors of their healthcare workers towards the culture of patient safety.

The results of the analysis 12 dimensions of HSOPSC in seven countries in the world found that the lowest positive response was in the Staff Management dimension with an average presentation of 37.74% and the highest average dimension of patient safety culture in seven countries was in teamwork in one unit of 75.95%. From the average results of the 12 HSOPSC dimensions, no one has been able to touch the number of more than 80% and only gets an overall average of 53.18%, so it can be said that the positive response of health workers to patient safety culture in seven countries is still weak, so that continuous improvement is needed, especially in the dimensions of staffing.

This study collected a sample of 17888, with the largest sample being in the study in Iran,<sup>23</sup> because the study used literacy studies and collected more than 20 studies, the researcher calculated the overall sample of the study. The lowest sample is in the Philippines with a total sample of 292,<sup>20</sup> while the rest are Ghana 322,<sup>21</sup> Ethiopia 480,<sup>18</sup> United State 1679,<sup>19</sup> and Republic of China 5490.<sup>24</sup> The researcher is aware that most of the samples do not represent the entire population in each of the seven countries, but the researchers look at the aspects of the recentness of research journals and aspects of the international index of these journals so that according to the researchers they can be representative of each country.

Researchers found in this study that the average frequency of positive responses to patient safety culture from 2017-2019 there was an increase in aspects culture,<sup>18,19,20,21</sup> but differed greatly in late 2019 and early 2020, where there was a significant decrease in positive responses.<sup>22,23</sup> These results make researchers slightly associate this with the COVID-19 pandemic that occurred at the end of 2019. Meanwhile, due to the adaptation of new habits to the COVID-19 pandemic, the results have slightly increased positive responses at

the end of 2020.<sup>24</sup> The results of the analysis by year and its relation to the COVID-19 pandemic with culture patient safety still need further research.

In addition to HSOPSC, there are many survey methods and instruments that researchers can choose to measure patient safety, especially the Safety Climate Questionnaire (SAQ).<sup>12</sup> The difference between SAQ and HSOPSC is in the number of dimensions and survey items, the SAQ has 42 questions with 8 dimensions, including; climate of teamwork, safety climate, job satisfaction, stress recognition, perception of unit management, perception of hospital management, working conditions and safe behavior,<sup>25</sup> while the HSOPS also has 42 question items but more in the number of dimensions, namely 12 dimensions.<sup>11</sup> The many dimensions of several surveys are not the basis for survey selection, but most researchers prefer HSOPSC as their research instrument, especially from various countries,<sup>26</sup> making it easier for researchers to take research data as a reference.

Another study conducted in Ethiopia found the highest dimensional results in HSOPSC were in teamwork within the unit with a presentation of 82.2% and the lowest presentation was in staff management or staffing with a figure of 27.2%,<sup>27</sup> these results are not much different from research<sup>18</sup> which got a balanced presentation of organizational learning and teamwork within unit had the highest positive response while staffing received the lowest positive response. Another study in US found that the impact of the frequency of reported incident was greater than the dimension communication openness,<sup>28</sup> while the results of the study<sup>19</sup> found that the presentation of a positive response to the patient safety culture, especially the dimension of communication openness, was greater in the presentation of the response than the frequency of reported incident. So it can be concluded that in US, health workers agree more on open communication than the frequency of reported incident, even though the frequency of reported incident is more important than communication openness.

Another study in the Philippines found that the positive response score for the staff management or staffing dimension was smaller than the other dimensions,<sup>29</sup> while for the study<sup>20</sup> the smallest presentation is in the act of non-punitive response to errors by 17.65% and not much different from the presentation with staffing or staf management by 27.55%, both dimensions are still very low in the Philippines. Another study in Indonesia showed that the

lowest percentage of positive responses was in the non-punitive response to errors, which was 47.5% and staff management or staffing was 57.6%,<sup>30</sup> in the study of<sup>21</sup> also found the lowest positive response was in the staffing.

Another result of the literature search found that the lowest positive response in Ghana was in staffing, which was 34.5%,<sup>31</sup> while<sup>22</sup> got the lowest result on non-punitive response to errors, and also a positive response on the dimensions of staffing was still low. Another study in Iran found the lowest average positive response was in the act of non-punitive response to errors at 32.4%.<sup>32</sup> The same thing was found by,<sup>23</sup> that the percentage of the dimension non-punitive response to errors was lower than the other dimensions in the HSOPSC. Another study in Republic of China revealed that the dimension of the frequency of reported incident is lower than other dimensions in the HSOPSC, which is 43.9% and the results are not much different from the dimension of the non-punitive response to errors by 51.1%,<sup>33</sup> this is almost the same as the research<sup>24</sup> who found the result that the lowest dimension was in the non-punitive response to errors.

## CONCLUSION

Broadly speaking, this study in seven countries found a low patient safety culture with an average presentation of 53.18%, with the lowest dimensions being in staffing, non-punitive response to errors, and the frequency of reported incident. These three dimensions need further improvement for the implementation of a patient safety culture in health facilities.

This research is still far from a perfect process, further research is needed on measuring patient safety culture using various survey instruments, so that it can enrich literacy and can be a valuable lesson for management and health workers in health facilities to better protect and care for patients safely.

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