

Patient Safety Culture across Hospital in South Sulawesi Province, Indonesia: Comparing Between Urban, Sub Urban and Rural Areas

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Abstract- It is believed that in order to reduce the number of adverse events, hospitals have to stimulate a more open culture and reflective attitude towards errors and patient safety. The objective of this study was to compare the patient safety culture in South Sulawesi Province hospital in urban, sub urban and rural areas.

This study was a cross-sectional survey study. A questionnaire adapted from Agency for Healthcare Research and Quality (AHRQ). The study was conducted in 4 hospital (2 hospitals in urban, 1 in the sub urban and 1 in rural areas). Total respondents was 841 people.

The study found there were differences between patient safety culture in urban, sub urban and rural areas. Number of positive respond was higher at urban hospital (mean=79,5%), sub urban hospital (mean=75%) and the lower at rural hospital (mean=36,2%). The management support for patient safety is the lowest dimension in every hospital.

The study showed the similarities and differences in sub dimension of patient safety culture between hospitals. All hospital can improve their patient safety culture by sharing they best practices and learn from each other.

Index Terms- Patient safety, Culture, Hospital, Indonesia

I. INTRODUCTION

Patient safety is a critical component to the quality of health care. Patient safety is defined as ‘the prevention of harm caused by errors. One-fifth of the people in the community are exposed to medical mistakes¹, and this rate may be as high as 35–42%². As a result, millions of people may die or suffer injuries due to preventable medical errors.

Many experts on patient safety believe that full disclosure of adverse events, without blame, leads to a reduction in medical errors³. Still, in many organizations, there is a blame culture in which health-care professionals are afraid of reporting errors because of liability concerns or the fear of being seen as incompetent by colleagues⁴.

One of the recommendations of the Institute of Medicine in the USA, the Department of Health in the UK and a consortium of field parties (e.g. associations of nurses, doctors and hospitals) in the Netherlands to reduce adverse events is to stimulate a more open culture and reflective attitude towards errors and adverse events⁴.

Patient safety culture can be described as: *The product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization’s health and safety management*^{5,6}.

In Indonesia, the number of patient safety Incidence in 2010 were higher found in local government hospital (16%) rather than in private hospital (12%)⁷. In 2011, the number of patient safety incidence were increasing from January (0,0%), February (3,9%), March (5,15%) and in April (26,76%)⁸.

Structural characteristic of hospital such as (teaching status, size, staffing level and location: rural/urban) will be related with process of care and adverse event which it related to patient safety culture in hospital⁹. The previous research by Singer et.al also give some recommendation to further research to assess the relationship between safety culture and hospital characteristics¹⁰. Comparing organizations in a variety of hospital characteristics such as location would provide important knowledge to learn from each other.

This research objective was to compare the patient safety culture in South Sulawesi Province hospital in urban, sub urban and rural areas. The following are the research questions of this article: (i) what is the patient safety culture in hospitals in the three areas? (ii) Are there any differences across these areas and how can these differences be explained?

II. MATERIAL AND METHOD

This research used cross sectional survey method. The survey was designed to assess opinions of hospital staff about patient safety issues, medical error and event reporting and includes 42 items measuring 12 dimensions of patient safety culture. Questionnaire adopted from the Agency of Healthcare Research and Quality (AHRQ)¹¹. The questionnaire of AHRQ were translated into bahasa by one translator with background in patient safety research.

Respondents are asked to rate each item of a dimension on a four-point Likert scale of agreement (strongly disagree, disagree, agree and strongly agree) or frequency (never, rarely, most of the time, always). The study was conducted in 4 hospital (2 hospitals in urban, 1 in the sub urban and 1 in rural areas).

Total respondents was 841 people with Random sampling was used to survey a wide range of hospital staffs including physicians representing each department, nurses representing each clinical nursing unit, and non-clinical staff.

III. RESULTS

Patient safety culture is a complex framework which involves different dimensions that guides many discretionary behaviors of patient safety. According to the Agency of Healthcare Research and Quality (AHRQ), patient safety culture

requires an understanding of the values, beliefs, and norms about what is important in an organization and what attitudes and behaviors related to patient safety are supported, rewarded, and expected¹¹. Therefore, it is important for health care organizations to assess their culture regarding patient safety in order to improve patient safety within the health care process.

Table 1. Characteristics of respondents

| Variable | Sub Variable | n (841) | % |
|--------------|---------------------|---------|------|
| Sex | Male | 260 | 30,9 |
| | Female | 581 | 69,1 |
| Age's | <=20 | 5 | ,6 |
| | 21 - 30 | 379 | 45,1 |
| | 31 - 40 | 300 | 35,7 |
| | 41 - 50 | 122 | 14,5 |
| | >50 | 35 | 4,2 |
| Unit | Ambulatory | 10 | 1,2 |
| | Pharmacies | 70 | 8,3 |
| | Physiotherapist | 17 | 2,0 |
| | Intensive Care Unit | 42 | 5,0 |
| | Emergency Unit | 63 | 7,5 |
| | CSSD/Laundry | 21 | 2,5 |
| | Nutritionist | 58 | 6,9 |
| | Inpatient Unit | 279 | 33,2 |
| | Outpatient Unit | 134 | 15,9 |
| | Maintenance Unit | 11 | 1,3 |
| | Operating Room | 42 | 5,0 |
| | Laboratory | 27 | 3,2 |
| | Radiology | 26 | 3,1 |
| | Medical Records | 41 | 4,9 |

Table 2. Comparative results on safety culture dimensions of three areas

| Safety culture dimensions | Percentage Positive Responses | | |
|--|-------------------------------|-----------|-------|
| | Urban | Sub Urban | Rural |
| Teamwork Within Units | 96,1% | 59,2% | 99,0% |
| Supervisor/Manager Expectations & Actions Promoting Patient Safety | 90,0% | 78,0% | 44,3% |
| Organizational Learning—Continuous Improvement | 81,6% | 71,8% | 43,8% |
| Management Support for Patient Safety | 58,4% | 59,1% | 6,9% |
| Overall Perceptions of Patient Safety | 71,9% | 76,7% | 67,0% |
| Feedback & Communication About Error | 61,9% | 94,7% | 35,3% |
| Communication Openness | 83,7% | 85,9% | 10,8% |
| Frequency of Events Reported | 80,0% | 96,4% | 9,0% |
| Teamwork Across Units | 93,7% | 83,7% | 48,2% |
| Staffing | 84,4% | 63,9% | 11,5% |

| | | | |
|---------------------------------|--------------|--------------|--------------|
| Handoffs & Transitions | 81,2% | 67,8% | 48,4% |
| Non-punitive Response to Errors | 70,8% | 62,9% | 10,5% |
| Mean | 79,5% | 75,0% | 36,2% |
| Max | 96,1% | 96,4% | 99,0% |
| Min | 58,4% | 59,1% | 6,9% |

The results of this survey divided at three different levels: the unit level, the hospital level, and the outcome level.

Unit-level aspects of patient safety culture

The unit unit-level aspects of safety culture are divided into 7 sub dimensions in table 1 such as: Supervisor/ manager expectations and actions promoting safety (4 items), Organizational learning-continuous improvement (3 items), Teamwork within units (4 items), Communication openness (3 items), Feedback and communication about error (3 items), Non-punitive response to error (3 items), Staffing (4 items).

For the "Supervisor/manager expectations and actions promoting safety" dimension, the percentage of positive responses for Hospital in Urban Area is 96,1%, which is much higher than hospital in hospital in sub urban and rural areas was the lower.

The percentage of positive responses for "Teamwork within units" is 99% in rural area, which is much higher than in hospital at Urban and Sub Urban. The results indicate that most of the respondents in this study feel supportive and respected in their unit or work place, and they are more likely to cooperate and coordinate with their co-workers.

For the Organizational learning-continuous improvement and non-punitive response to error dimensions, the percentage of positive responses are higher in urban hospitals and lower at hospital in rural area. However for the Communication openness and Feedback and communication about error the percentage of positive responses were higher at sub urban hospitals.

Hospital-level aspects of patient safety culture

The hospital-level aspects of patient safety culture sub dimension items in table 1 are hospital management support for patient safety (3 items), teamwork across hospital units (4 items) and hospital handoffs and transitions (4 items). The "Hospital management support for patient safety" dimension is an indication of whether the management team provides a work climate that promotes patient safety¹².

The higher percentage of positive response of hospital management support for patient safety found at hospital in sub urban area. For teamwork across hospital units and hospital handoffs and transitions dimensions were higher in hospital in urban area. Overall, three dimension of hospital level at hospital in rural area showed the lowest number of positive respond rather than other areas.

Outcome-level aspects of patient safety culture

The outcome-level measurements of patient safety culture include "Overall perceptions of safety" and "Frequency of event reporting" (items 5 and 8 in Table 1). Overall perception of patient safety culture is an indication of good procedures and

systems for preventing errors and the lack of patient safety problems. The percentage of positive response for sub urban hospital for this item is 76,7%, a little higher than in the urban hospital result (71,9%). For the frequency of event reporting factor, the positive response also higher in sub urban hospital rather in urban and rural areas.

Overall patient safety culture

Based on table 1, we can see for overall the percentage of positive respond rate of patient safety culture in three area were higher in urban area (79,5%) following in sub urban area (75%) and in rural area was lower (36,2%).

IV. DISCUSSION

The Hospital Survey on Patient Safety Culture is one of the most common tools being used to assess the culture of safety in hospitals. Studies that utilize this tool usually report the 12 composite scores and the scores on the patient safety grade and the number of events reported.

Based on the 12 culture dimensions of patient safety culture, the results showed that Teamwork within units is a strong area in the participating hospitals in rural (99%) and urban areas (96,1%). A similar finding was reported by C. Wagner, et.al in 2013 was survey the hospital in three countries (Netherlands, USA and Taiwan)⁴. They found that Teamwork within units is a strong area in hospital in three countries. It means patient safety culture always growth firstly in units and for improve the patient safety culture we have to give more attention in that areas.

Hospital size and accreditation status were also factors affecting the culture of safety in hospitals¹³. Most of hospital in rural area is a small hospital. Small hospitals scored higher than larger hospitals on Teamwork within units. Large hospitals usually face challenges when it comes to implementing quality work especially because of bureaucracy. On the contrary, small hospitals have a more homogenous culture where staff members are more likely to share the same values¹³.

For hospital in sub urban the strong area found in the Frequency of Events Reported. A safety culture includes three major components a just culture, a reporting culture, and a learning culture¹¹. Event reporting, an essential component for achieving a learning culture, can only happen in a non-punitive environment where events can be reported without people being blamed¹⁴.

This research also found that in all three areas is the Management Support for Patient Safety are the lower sub dimension. The hospital has to give more attention for improving their management support for patient safety because the safety culture will be hard to grow and sustain if did not get support from the management.

V. CONCLUSION

Developing a patient safety culture was one of the recommendations made by the Institute of Medicine to assist hospitals in improving patient safety. Assessing the organization's existing safety culture is the first stage of developing a safety culture¹⁵.

Doing comparisons on hospital safety culture can help us to identify opportunities for improving an important area for research with potentially useful implications for practice. The results have shown similarities and differences within and between the three areas. This means that hospitals with low scores on safety culture dimensions can learn from hospitals that have more developed safety cultures.

Good examples can be found within each areas, reducing the necessity to look over the borders when it comes to improving safety culture. However, for some dimensions with low scores, hospital can share best practices and learn from each other. For various weak points, safety improvement activities already exist and exchange of experiences with the implementation of these activities can take place.

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REFERENCES

- [1] Adams RE, Boscarino JA. A community survey of medical errors in New York. *Int J Qual Health Care* 2004;16:353–62.
- [2] Blendon RJ, DesRoches CM, Brodie M et al. Views of practicing physicians and the public on medical errors. *N Engl J Med* 2002;347:1933–40.
- [3] Kohn LT, Corrigan JM, MS D. *To Err Is Human: Building a Safer Healthcare System*. Washington DC: National Academy Press; 2000.
- [4] Wagner C, Smits M, Sorra J, Huang CC. Assessing patient safety culture in hospitals across countries. *International Journal for Quality in Health Care* 2013. 2013; Volume 25(Number 3):pp. 213–21.
- [5] Health and Safety Commission (HSC). *Organizing for Safety: Third Report*. ACSNI Study Group on Human Factors: Sudbury: HSE Books; 1993.
- [6] Nieva V, Sorra J. Safety culture assessment: a tool for improving patient safety in health care organizations. *Qual Saf Health Care*. 2003;12 (Suppl. II):ii17–23.
- [7] Patient Safety Hospital Committee. *Patient Safety Incidence Report in Indonesia*. Jakarta: KKP-RS, 2010.
- [8] Patient Safety Hospital Committee. *Patient Safety Incidence Report in Indonesia (Period:Jan-April)*. Jakarta: KKP-RS, 2011.
- [9] Rivard PE, Christiansen CL, Zhao S, Elixhauser A, Rosen AK. *Is There an Association Between Patient Safety Indicators and Hospital Teaching Status?* Boston: Center for Organization, Leadership and Management Research, VA Boston Healthcare System, 2008.
- [10] Singer S J, Gaba D M, Geppert J J, Sinaiko A D, Howard S K, Park K C. The culture of safety: results of an organization-wide survey in 15 California hospitals. *Qual Saf Health Care*. 2003;12:112–118.

- [11] Association of Healthcare Research and Quality. Available from: <http://www.ahrq.gov/qual/hospsurveydb/index.html>.
- [12] Chen, C. and H.-H. Li (2010). "Measuring patient safety culture in Taiwan using the Hospital Survey on Patient Safety Culture (HSOPSC)." *BMC Health Services Research* 10:152.
- [13] El-Jardali. *The impact of hospital rationalization and the interrelationships among organizational culture and nursing care processes on health related patient outcomes*. PhD thesis Canada: Carleton University; 2003.
- [14] Smits M, Christiaans-Dingelhoff I, Wagner C, Wal G, PP G. The psychometric properties of the "Hospital Survey of Patient Safety Culture" in Dutch hospital. *BMC Health Services Research* 2008;8.
- [15] Hellings J, Schrooten W, Klazinga N, A V. Challenging patient safety culture: survey results. *International Journal of Health Care Quality Assurance* 2007. 2007; 20:620-632.

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