

## Evaluation of Patient Safety Culture and Organizational Culture as a Step in Patient Safety Improvement in a Hospital in Jakarta, Indonesia

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ARTICLE INFO	ABSTRACT
<p><b>Article type:</b> Original Article</p> <hr/> <p><b>Article history:</b> Received: 09- Apr-2016 Accepted: 30- Apr -2016</p> <hr/> <p><b>Keywords:</b> Clan culture Clinical staff Hospital Organizational culture Patient safety culture</p>	<p><b>Introduction:</b> Establishment of patient safety culture is the first step in the improvement of patient safety. As such, assessment of patient safety culture in hospitals is of paramount importance. Patient safety culture is an inherent component of organizational culture, so that the study of organizational culture is required in developing patient safety. This study aimed to evaluate patient safety culture among the clinical staff of a hospital in Jakarta, Indonesia and identify organizational culture profile.</p> <p><b>Materials and Methods:</b> This cross-sectional, descriptive, qualitative study was conducted in a hospital in Jakarta, Indonesia in 2014. Sample population consisted of nurses, midwives, physicians, pediatricians, obstetrics and gynecology specialists, laboratory personnel, and pharmacy staff (n=152). Data were collected using the Hospital Survey on Patient Safety Culture developed by the Agency for Healthcare Research and Quality (AHRQ) and Organizational Culture Assessment Instrument (OCAI).</p> <p><b>Results:</b> Teamwork within units” was the strongest dimension of patient safety culture (91.7%), while “staffing” and “non-punitive response to error” were the weakest dimensions (22.7%). Moreover, clan culture was the most dominant type of organizational culture in the studied hospital. This culture serves as a guide for the changes in the healthcare organization, especially in the development of patient safety culture.</p> <p><b>Conclusion:</b> According to the results of this study, healthcare providers were positively inclined toward the patient safety culture within the organization. As such, the action plan was designed through consensus decision-making and deemed effective in articulating patient safety in the vision and mission of the organization.</p>

► *Please cite this paper as:*

Irviranty A, Ayuningtyas D, Misnaniarti M. Evaluation of Patient Safety Culture and Organizational Culture as a Step in Patient Safety Improvement in a Hospital in Jakarta, Indonesia. *Patient Saf Qual Improv.* 2016; 4(3):394-399.

### Introduction

Patient safety is inherent to high-quality care services, which requires the strong commitment of healthcare teams. Combination of various elements in the hospital may concurrently lead to a high-risk environment. In order to understand the risks involved in the complex process of health care, information regarding error cases and near-miss events is essential. This information could help healthcare providers close the existing gaps and reduce morbidity and mortality rates in order to achieve the expected care service quality (1).

Commitment to patient safety has become widespread since late 1990s. Errors occur regularly in health services, affecting 10% of all hospital admissions. Some of these errors might be severe and

even fatal. According to previous studies, more than half of the adverse events in hospitals occur due to preventable medical errors (2).

Following the publication of various reports, efforts to improve patient safety has become a global concern, resulting in the remarkable transformation of the perception of patient safety. Nevertheless, the current status of patient safety around the world remains alarming. Data on the causes of medical errors and adverse events or unexpected incidents reveals that unsafe patient care significantly affects the quality of treatment and health care (1).

Every healthcare organization has a culture, which influences the attitude and behavior of its members. Competency and values of healthcare staff and

managers play a pivotal role in the efficiency and success of the organization (3). In this study, we considered a hospital in Jakarta, Indonesia (categorized as type B hospital), which constantly endeavors for high-quality care services through enforcing proper corporate and clinical governance. Patient safety culture seems to have been developed in this hospital considering multiple reports of patient safety incidents that are presented to the hospital patient safety team. In 2012, a total of 22 patient safety incidents were reported by this hospital, 19 of which accounted for unexpected incidents.

Organizational sustainability is inherent to the culture and values of a healthcare system as the most fundamental aspects of an organization. Organizational culture is widely considered crucial to reforming and modernizing public administration and care service delivery (4).

Evaluation of patient safety culture is the primary step toward improving patient safety in healthcare organizations. Furthermore, patient safety is a tool that could be used to investigate the organizational conditions that might lead to adverse events and patient harm (5).

This study aimed to evaluate patient safety culture and identify the organizational culture profile in a hospital in Jakarta, Indonesia in order to determine the development measures of patient safety culture.

**Materials and Methods**

This cross-sectional study was conducted based on available surveys and Consensus Decision Making Group (CDMG) in 2014. Unit of patient safety culture analysis was a hospital (hospital A) in Jakarta, Indonesia.

Required data were collected in three stages. In the first stage, the patient safety culture survey was completed by 152 respondents, consisting of 41 nurses, 76 midwives, 11 physicians, 6 pediatricians, 6 obstetrics and gynecology specialists, 6 laboratory personnel, and 6 pharmacy staff.

In the second stage, the organizational culture survey was completed by 15 members of the board of directors and senior management. The third stage of data collection focused on the preparation of an action plan based on CDMG by 12 directors and senior managers.

Data collection instruments included the Hospital Survey on Patient Safety Culture developed by the Agency for Healthcare Research and Quality (AHRQ) (U.S.A), which is used to measure patient safety culture. Moreover, the Organizational Culture Assessment Instrument (OCAI) was used to collect data on the organizational culture profile.

Study concept was based on the theory of patient safety culture and organizational culture (6-8). Reliability of the questionnaires was confirmed through the completion of the questionnaires by 30 respondents in another hospital in Jakarta. In addition, validity of the questionnaires was determined through the

comparison of the calculated R value with the R table value. In this study, the R table value for 30 respondents was estimated at 0.361 at the significance level of 5%. If the calculated R value in the column was greater than 0.361, the question/statement would be considered valid. According to the AHRQ, patient safety culture encompasses 14 dimensions, which could be grouped into a nine-dimension model of hospital safety culture. Three of these dimensions involve organizational factors, two dimensions are related to work unit factors, three dimensions focus on individual factors, and one factor is about the type of report questions regarding the actual incidence of unsafe care (9). In a study performed in Dutch hospitals, 11 factors of the patient safety culture were reported to have acceptable reliability and good construct validity (10).

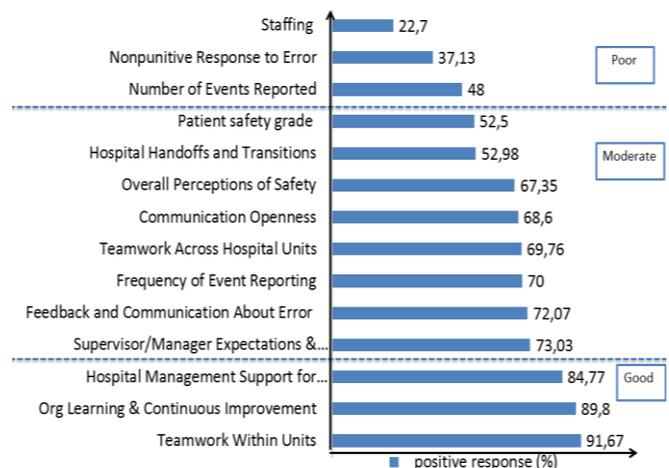
Data analysis was performed using descriptive statistics for the survey results and qualitative analysis for the interpretation of organizational culture type based on the competing values framework (8).

Evaluation of patient safety culture creates a picture of different dimensions of safety culture, elaborating on their strengths and weaknesses. Each type of organizational culture has a specific quality strategy, and identifying the organizational culture profile could determine this strategy to be applied in the development of patient safety measures.

**Results**

*Patient safety culture*

In this study, responses to all the dimensions of patient safety culture were within the range of 22.7-91.7%. Positive perception toward the patient safety culture was observed in the dimensions of “teamwork within units” (91.7%), “organizational learning” (89.9%), and “hospital management support for patient safety” (84.7%). On the other hand, poor perception of the patient safety culture was observed in the dimensions of “staffing” (22.7%), “non-punitive response to error” (37.1%), and number of reports within the past 12 months (48%) (Figure 1).



**Figure1: Patient Safety Culture Measurement Result in Hospital A.**

*Organizational culture*

With regard to organizational culture, obtained results of this study were interpreted based on the competing values framework, and different types of organizational culture in the selected hospital were as follows:

The dominant type of organizational culture is defined by the quadrant with the highest average score.

The strength of the dominant culture is determined based on the absolute value of the culture type and is considered significant if the value difference between the quadrants is more than 10 points.

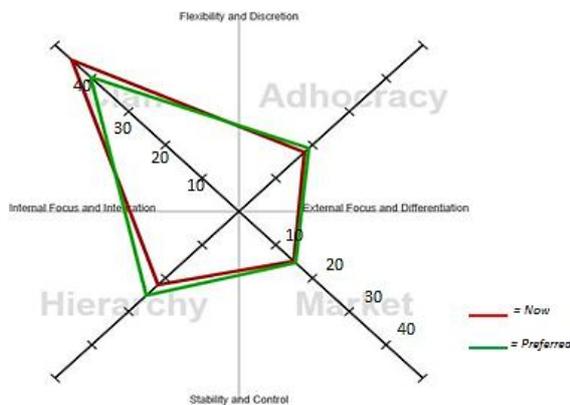
General dimensions of organizational culture are used to describe the direction lines of the culture on two main dimensions (flexibility and freedom versus stability and control, and external focus and differentiation versus internal focus and integration)

Collected data were indicative of an average score calculation, which describes the cultural typology in this regard (Table 1).

**Table1: Scores of organizational culture type in hospital A in Jakarta, Indonesia**

Culture Type	Present	Preferred	Difference
Clan Culture	45	40	5
Adhocracy Culture	18	19	1
Market Culture	15	16	1
Hierarchy Culture	22	25	3

According to the results of this study, clan culture was the dominant culture type in the director board of hospital A in Jakarta (Figure 2).



**Figure2: Organizational Culture Type in Hospital A**

Since value differences between the clan culture and other culture types were more than 10 points, it could be inferred that the clan culture is the dominant culture type in this hospital.

Further interpretation of these results could be performed through the comparison of the responses of each quadrant and the associated effects on the two dimensions of flexibility and freedom versus stability and control, and external focus and differentiation versus internal focus and integration.

As depicted in Figure2, clan (45)+ hierarchy (22) and adhocracy (18) + market (15) = 67 and 33. Correspondingly, this healthcare organization was more focused on the internal environment and integration rather than external orientation and differentiation. Moreover, comparisons of clan + adhocracy and hierarchy + market = 63 and 37 indicated that this organization has high flexibility and freedom, while stability and control are at a lower level.

According to our findings, the current clan culture and preferred culture have value difference of less than 10 points (six points); therefore, the current culture type is expected to have no significant changes.

*Consensus decision making group results*

In this study, the event was held in two sessions (90 minutes each). In the first session, results of the measurement of patient safety culture and organizational culture were presented to the participants. In addition, the participants were asked to give their opinion on the survey results in the form of group discussions, which resulted in the agreement that these results must be followed as essential principles. Afterwards, the participants were divided into three small groups, and each group discussed the cultural dimensions that required attention and improvement.

In the second session, participants in each group presented the results of discussions and proposed an action plan based on the quality strategy of the clan culture type, including the dimensions of open communication, empowerment, team building, employee participation, and human resource development.

**Discussion**

Measurement of patient safety culture has been performed extensively in different countries across the world. The Hospital Survey on Patient Safety Culture by AHRQ is a familiar instrument to measure patient safety culture, which has been widely applied in several studies in this regard.

According to the results of the present study, the highest response rate belonged to the dimension of “teamwork within units”, while the lowest response rate was observed in the dimension of “staffing”. This is in congruence with the findings of a study performed in Makassar (Indonesia), which reported the highest score of patient safety culture in the dimension of “teamwork within units” (95%), while moderate scores were reported in the dimension of “non-punitive response to error” (51%) (11).

Similarly, results of a research conducted in 42 hospitals in Taiwan (12) indicated that the highest score belonged to the dimension of “teamwork within units” (94%), while the lowest score belonged to the dimension of “staffing” (39%).

On the other hand, a study performed in 32 hospitals in China (13) reported the highest score in the dimension of “organizational learning-continuous improvement” (88%) and the lowest score in the dimension of “staffing” (45%). In another study conducted in Riyadh (Saudi Arabia) (14), strong dimensions of patient safety culture were “organizational learning-continuous improvement” and “teamwork within units”, while the weakest dimensions were “non-punitive response to error”, “staffing”, and “communication openness”.

Based on the aforementioned findings, it could be inferred that the strongest dimensions of patient safety culture are “teamwork within units”, “management support for patient safety”, and “organizational learning-continuous improvement”. However, this categorization cannot be applied to all professions. For instance, some of the favorable and moderate dimensions of culture might be viewed as poor culture categories depending on the profession. Therefore, generalization of these culture categories to other professions requires further improvement.

Our findings are in line with a research conducted in China, which was suggestive of differences between the scores of patient safety culture in various professions. Accordingly, physicians achieved the majority of excellent scores (18%), while nurses obtained the majority of good scores (58%) in the patient safety culture survey. Overall, there was a positive attitude toward the patient safety culture within the studied organizations (13).

On the other hand, problematic responses were reported to vary among the respondents in California (U.S.A). As such, clinicians, especially nurses, had the highest rate of problematic responses compared to non-clinicians, and healthcare frontline workers scored higher than senior managers (15).

According to the results of the current study, managers of hospital A in Jakarta are faced with considerable challenges in terms of implementing the patient safety culture. Weaknesses in the perceptions toward the dimension of “non-punitive response to error” could appear as an obstacle against the realization of the other aspects of safety culture.

An efficient reporting system is inherent to the adequate knowledge of the healthcare staff about safety culture. This culture only thrives if the reporting individuals experience benefits and constructive feedback without any concern of being blamed. In this regard, findings of a study in Iran denoted the weakness of the dimension of “non-punitive response to error”, stating that this aspect of patient safety culture required special attention and improvement (16).

According to the results of the current study, clan culture was the dominant culture type, as well as the preferred culture type, in hospital A in Jakarta. Existence of a strong organizational culture could be because this hospital has been offering care services for over 100 years, and therefore, this culture type cannot

change easily since this organization has been active for a long time.

Organizational culture is a tremendous force that persists despite change. Obtained results of the present study in this regard could be explained by the effects of the national culture on the function of healthcare organizations. According to the study by Demir conducted in Turkey, Turkish culture has high scores in the safety culture dimension of collectivism (17).

Clan culture is an organizational culture type with resemblance to the characteristics of a family. In this culture, the leader acts as a mentor and facilitator, and perhaps even a parent. In addition, the working environment contributes to the management of the organization through teamwork, human resource development, and treating customers as partners. As such, the organization functions based on loyalty, tradition and high commitment of the members. Responsibility and loyalty are considered key elements in such cultures and are essential to the clan culture as well. In the clan culture, the main task of the management is to facilitate the participation of the personnel in the provision of healthcare services (8).

Clan culture largely contributes to the implementation of patient safety culture. However, if it is associated with a condition in hospital A in Jakarta, the clan culture type may not always have a positive influence on patient safety. This is because the rate of adverse events and medical errors has not declined and continue to affect patient safety.

Agreeable environment of healthcare organizations strengthens the interpersonal relations of the members, encouraging them to tolerate the mistakes of other members. On the other hand, it might impede the enforcement of rules and standards, and if the situation remains unchanged, development of patient safety culture may become challenging.

Efforts to ensure patient safety are crucial. As reported by a research conducted in California, approximately 1% of the medical incidents in two hospitals resulted in severe patient harm and mortality (18).

Moreover, two other studies performed in Colorado, Utah, and New York indicated that adverse medical events occurred in 2.9% and 3.7% of hospitalized patients. Furthermore, in some hospitals in Colorado and Utah, 6.6% of adverse events led to the death of patients, while in a hospital in New York, 13.6% of the adverse events led to mortality (2).

The main purpose of ensuring patient safety is to minimize risks and prevent the damages caused by medical errors due to a specific action or lack of action. In other words, it aims to prevent the patient harm caused by the process of health care (1, 19). According to the Health Foundation, safety culture relates to the priorities and support of a healthcare organization for safety improvement.

In organizations with effective safety culture, members tend to communicate based on mutual trust,

shared perceptions of the importance of safety culture, confidence in the effectiveness of preventive measures, and support of care personnel (20). Culture encompasses a basic set of assumptions about discoveries, concepts, emotional reactions to events, and needed actions in different situations. Leaders play a determinant role in implementing the patient safety culture since making radical changes from the norm in an organization will ultimately influence the culture before leading to successful organizational change (21, 22). Findings of the current study could summarize successful safety culture measurement and improvement in 10 steps, as follows: building capacity (development of expertise in safety culture measurement and improvement), selection of an appropriate survey instrument, obtaining informed leadership support, involvement of healthcare staff, survey distribution and collection, data analysis and interpretation, feedback results, agreed interventions via consultation, implementation of interventions, and tracking the associated changes (23).

Although the results of the present study could be beneficial for healthcare organizations, survey scores could not be evidentially associated with patient safety outcomes (24). Our findings were indicative of an inverse association between the patient safety culture and adverse medical events. It is noteworthy that measurement of patient safety culture could not guarantee patient safety (25). Therefore, researchers need to consider alternative techniques to assess organizational culture; such examples are ethnographic approaches, which provide valuable qualitative data to test the validity of survey methods (26).

Patient safety culture could be viewed as an outcome component of the healthcare system. Effectual patient safety culture arises from the interactions of various components of inputs and processes, including professionalism, service design and resource management within an organization. Assessment of

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different elements in an organization remarkably influences patient safety. Moreover, it could lay the ground for effective changes to enhance patient safety.

## Conclusion

According to the results of this study, the strongest dimension of patient safety culture in hospital A was “teamwork within units”, while the weakest dimensions were “staffing” and “non-punitive response to error”. Dominant organizational culture type in hospital A in Jakarta was the clan culture, which contributes to the enhancement of patient safety. However, the clan culture might appear as a barrier due to strong interpersonal relations and increased tolerance of healthcare providers, which might hinder the enforcement of disciplines and standards in the organization. After testing validity and reliability, we excluded some of the statements from the AHRQ instrument due to low response rate or neutral answers of participants, especially in the dimension of “staffing”. Applicability of this instrument must be determined using a reliable method with acceptable comparability in case of comparisons. On the other hand, development of approaches and instruments are of paramount importance for research on patient safety culture so as to provide sufficient space for local uniqueness of a region or country. This is because safety culture is part of the organizational culture, which is manifested in the culture of a nation. In conclusion, it is recommended that a new dimension on transparency (openness) with patients and their family about medical incidents be added to the AHRQ instrument.

## Acknowledgement

Hereby, we extend our gratitude to the Health Institution of Budi Kemuliaan for the support of this research project.

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