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THE DEVELOPMENT OF INTEGRATIVE MEASUREMENT MODEL OF PATIENT SAFETY CLIMATE OF HOSPITAL IN DKI JAKARTA, 2013

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Abstract

The integrative model in measurement of patient safety climate is currently developing and routinely performing in many countries as one of the performance indicators of patient safety in hospitals. This research aimed at developing the model in Indonesia with the good value of psychometric.

The development of the model based on a measurement model of patient safety climate by Rachmawati (2012) which has been applied in some private hospitals in Indonesia. The new indicators of the model explored through the review of the latest journal and rules, semi structured interviews with 5 (five) patient safety experts, and 5 focus group discussions consisting of staff and management of various kinds of hospital in Jakarta. The indicator gained examined in terms of content and language ("bahasa") as well as the value of Alpha Cronbach..

Results of the study revealed that the base model still used for its nature as an integrative measurement and has a good psychometric value (RMSEA=0.047, close fit). It is also gained 25 new indicators consisting of 5 indicators at unit level ("teamwork"), 3 indicators at individual level ("individual consciousness"), 17 indicators at hospital level ("patient safety climate") which are also reliable (with α-cronbach> 0.70).

This integrative model is recommended to be applied further so as to provide a more detailed condition of patient safety climate in hospital in DKI Jakarta.

Keywords: *Patient Safety Climate, Measurement Model*

BACKGROUND

Patient safety is the basic principle of health service and critical components of quality management in hospital (WHO, 2004). At the national level, the issue of patient safety is becoming an important part of international hospital accreditation (JCI) and instruments have been drawn up Patient Safety Handbook (2nd edition, 2008) and Standard of Patient Safety on Hospital (2013). The focus of Patient Safety (PS) is closely related to the still high number of incidents of PS, particularly Adverse Event (AE). At national and global level, the number of AE is known in various countries ranging from 3-16% (WHO, 2004), or 2.5-16.6% (Vincent, 2005 in Raleigh, 2009), and almost 50% of which are preventable occurrences (Smits, et al, 2008).

Efforts to suppress the occurrence of incidents of AE are mostly done through, among others, the cultural approach. The cultural approach is made, because it is believed that "the most fundamental barrier to improving the safety of patient care is the culture of the health organization" (Castle, 2006). According to NPSA (National Patient Safety Agency); also underline the importance of climate such this in WHO Reports (2006), European Commission in 2005 and the Council of Europe (2006) (Heillings, et al, 2007). Even in USA, since 2007, JCAHO (Joint Commission on Accreditation of Healthcare Organization) routinely has done annual judgment against the PS climate or culture such as the target of PS in a hospital. In Indonesia, "build or create a culture of PS," was placed in a first step from "7 steps towards PS." The results of the measurement of culture/climate of PS are important as the alternative performance indicators of safety in an organization (Guldenmund, 2000). Evaluation of safety culture is growing not only based on the presumption that technical failure as the cause of an accident, but is more focused on predictive measures of behavior management, safety systems and the perception of the entire staff to the safety (Colla, et al., 2005)

There are various models of climate or culture KP measurements in various countries, which generally have high psychometric values, as well as have a variety of dimensions/valid constructs that build it. Several countries do a model of adjustment in accordance with the situation and conditions of culture/climate of health care in their countries respectively, e.g. Japan, Netherlands, New Zealand, United Kingdom, China, etc. In Indonesia, there has been no information about the measurement model culture/climate of PS, who indeed made specifically according to the Indonesian hospital cultural setting, especially in Jakarta, which can almost be called a good picture representing the diversity of

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the hospital that exist in many big cities in Indonesia.

METHOD

The development of the model based on an integrative measurement model of patient safety climate by Rachmawati (2012) which has been applied in some private hospitals (owned by faith based organization called "Muhammadiyah" in Indonesia). This model had a good value in psychometric *(RMSEA=0.047, close fit).*

The new indicators of the development model explored through the review of the latest journal and rules (JCI, Phipps et al., Listyowardoyo et al., KOmite KPRS (2009-2013)); semi structured interviews with 5 (five) patient safety experts in Indonesia; and 5(five) focus group discussions consisting of staff and management of various kinds of hospital in Jakarta (RSUP Fatmawati, RSI Sulianti Suroso, RS, RSP Atmajaya, etc).

The indicators gained examined in terms of content and language; its importance to measure the culture of PS; whether confusing (could be interpreted differently by respondents); difficulties to understand its language; its accordance with the conditions of the hospital, and respondents less information to answer this question. Last, the detailed of instrument tested on the value of α-Cronbach obtained. The conceptual framework of the integrative model is as follows:

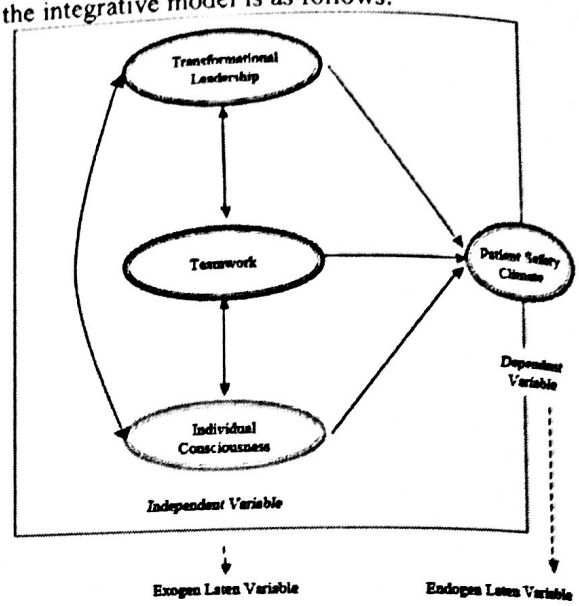

Figure 1.

Based Model of this research is the structural and measurement model of Patient Safety Climate by Rachmawati (2012) (see Figure 2).

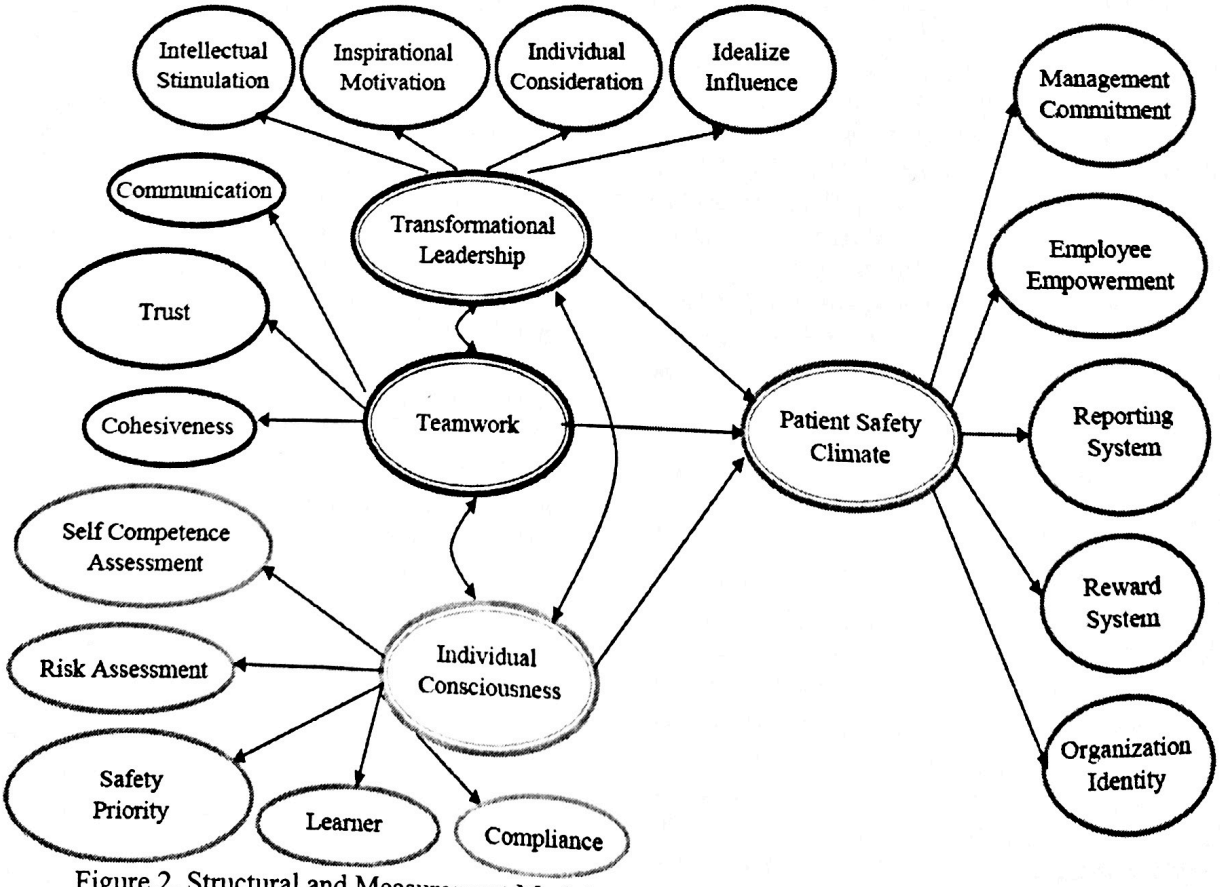

Figure 2. Structural and Measurement Model of Patient Safety Climate (Rachmawati, 2012)

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RESULT AND DISCUSSION

Results of the study revealed that the based model by Rachmawati (2012) still used for its nature as an integrative measurement (in 4 level of measurements: Top management/CEO, Work Unit, Individual and Hospital) and has a good psychometric value (RMSEA=0.047, close fit). It has been proved that the model could well-described the conditions of patient safety climate at each level in each of the hospital which became a sample research. The result of this model also showed that the "Leadership" variable of the Senior Management of hospital or CEO had the highest directly impact in building the patient safety climate (SLF=0.56). This result is similar to the results obtained from the research carried out by Mc Fadden et.al (2009) in a Model of Path Analysis of Transformational Leadership, Culture of PS, the Efforts of PS and Outcomes of PS. There is no additional indicator for this variable (transformational leadership) in this development model of measurement. This variable (Transformational Leadership) consists of 4 indicators: "inspirational motivation, intellectual stimulation, individualized consideration and idealized of influence." (based on Kreitner & Kinicky, 2007).

This research gained 25 new valid and reliable items consisting of 5 indicators at unit level ("teamwork"). The "teamwork" variable consist of 3 indicators, which are "Trust", "Communication" and " Cohesiveness," and described with 5 additional items as follows:

1. There was a problem of communication between employees ...
2. Our unit trust against other units ...
3. Employees in this unit are highly enjoyable...
4. There is a pattern of good cooperation between the various health workers ...
5. A mismatch between employees in the unit is resolved well ...

The addition of the items above can possible add to the accuracy of the measurement of indicators of teamwork on the based model, which only gives the lowest direct impact in building the climate of KP (SLF= 0.07, Rachmawati, 2012). PS is a team effort, the team that did not effectively works will create many opportunities for the occurrence of mistakes/errors (Merry&Brown in Byers& White, 2004).

The variable of Individual Consciousness consists of 5 indicators, which are "Competence, risk assessment, safety priority, Learner, and Compliance." There are 3 new reliable and valid items gained at individual level ("individual consciousness") as follows:

1. I understand very well the risk of any negative impact from an error/incident ...
2. Health workers in the shift turnover of RS is still an issue ...
3. The most senior staff know everything so that ...

Individual consciousness is widely used as a valid indicator to measure the PS culture/climate in some surveys as Naveh et al (2005), Matsubara et al. (2008), Singer et al. (2009), etc.

Last, there are 17 reliable and valid items gained at hospital level ("patient safety climate"). This variable consists of 5 indicators which are "the management commitment, employee empowerment, reporting system, reward system and organizational identity." Some of the additional items are:

1. There is a problem in the disbursement of the budget ...
2. The allocation of the financial budget of RS is not appropriate (smaller)...
3. Employees who have experienced or are learning less given training about...
4. Employees are afraid of getting a warning letter if she reported the incident...
5. Hospital's priority on patient safety because patients already pay expensively...
6. etc...

Most of indicators above used in many measurement models of PS climate in various countries, especially for "identity organizational identity which is important variable to make intervention program of PS work effectively. We gained many new items according to the result from the interviews and focus group discussion, which adjusting with some characteristic of local hospital culture.

CONCLUSION

The new integrative measurement model of patient safety climate obtained has also good psychometric values and need to be applied further so as to provide a more detailed condition of patient safety climate in hospital in DKI Jakarta.

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