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Safety Culture in Accredited Hospitals During Pandemic of COVID-19

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ABSTRACT

COVID-19 pandemic is a challenge for hospitals to ensure quality and safety of patients and health workers to create a hospital safety culture. Referring to cases, till December 25, 2022, number of deaths worldwide reached 6,678,098 people with 656,864,989 people confirmed positive. This case infects health workers with highest death rate during hospital treatment. Hospital safety culture is related to improving health services quality. Measuring safety culture requires combination of quantitative and qualitative to get comprehensive of safety culture. This study aimed to obtain a qualitative description of safety culture during the COVID-19 pandemic in accredited hospitals. Qualitative descriptive research by selecting informants using purposive sampling at three accredited hospitals. Instruments refer to modified questionnaire from forty-two focus group discussion's questions and ten in-depth interview's questions grouped into six indicators. Results showed that three accredited hospitals have safety culture programs and hospital occupational safety and health. Hospitals have commitment, supportive leadership, supervision, and sustainability monitoring and evaluation. They have adapted regulations for COVID-19. A conducive work environment is also available for making patients and workers safe. They have provided information, reminded each other, and behaved safely as safety participation. Communication is carried out through socialization and feedback. Training is available for supporting patient and worker safety. Accreditation standards could be immensely helpful in conducting safety efforts. The conclusion is three accredited hospitals have implemented safety culture during COVID-19 by six indicators, including: leadership, safety communication, regulations, work environment, participation, and training. Accreditation is important for safety culture hospital.

Keywords: safety culture, hospital, accreditation, qualitative, pandemic

INTRODUCTION

Severe acute respiratory syndrome coronavirus (SARS-CoV-2) was discovered initially in Wuhan, Hubei Province, China in January 2020 (1,2). The outbreak was declared as COVID-19 pandemic on February 11, 2020 by World Health Organization (3). Since that time, virus has spread throughout the world and modified itself with various other types, such as OC43, NL63, HKU1 and 229E, etc (4).
COVID-19 pandemic has become a challenge for hospitals to respond various changes in ensuring quality and safety and supporting the creation of a hospital safety culture (5). Most health workers do not have experience dealing with COVID-19. Health workers need to adapt to changes including guidelines, compliance of Personal Protective Equipment (PPE), changes in patient interactions with nurses, as well as concerns of infecting family (6). On the other hand, health service challenges facing

COVID-19 include lack of PPE, low number of competent human resources, lack of equipment to support ventilators and difficulty accessing Polymerase Chain Reaction (PCR) examinations (7).
Hospitals as health service institutions aim to provide protection for the safety of patients, the community, the hospital environment, as well as ensuring the safety of hospital workers who have a potential risk of work accidents or work-related diseases (8). In United States, health care workers injuries are twice as high than worker injuries in private industry (9). Worker accidents in hospitals have an impact in various aspects, such as reducing productivity (10). In Indonesia, it shows an increase in hospital reports regarding presence of patient safety incidents and an increase in cases of adverse event, no harm, near miss, patient safety incident reports in 2019 were 334 hospitals with a total of 7465 cases of which 2303 were adverse event, 2326 no harm and 2836 near miss. This reporting increased compared to the previous year in 2018, amounting to 145 hospitals with 1489 cases (11).
Referring to COVID-19 cases, until December 25 2022, the number of deaths worldwide reached 6,678,098 people with 656,864,989 people confirmed positive (12). In Indonesia, until 25 December 2022, there were 160,524 people died due to infection with COVID-19, of which 6,715,586 were confirmed positive (12,13). This case not only affects the public but also infects health workers and the overall death rate is the highest when receiving treatment in hospital (14). During COVID-19 pandemic, risk of infection increases which impacts the safety and health of workers and patients in hospitals (14,15).
A strong hospital safety culture is associated with achieving good outcomes. Patient safety aims to improve the quality of health services. Strengthening safety culture in hospitals is closely related to efforts to improve service quality (16,17). A poor safety culture can reduce service quality (18). There is a relationship between safety culture and accident prevention (19). National Health and Safety states that safety culture influences worker behavior in terms of taking risks, following rules, and conversations about safety (20). Safety culture is an organizational culture related to organizational performance in safety aspects by recognizing risks in order to achieve safe procedures, a blame-free environment, and organizational commitment in the form of resources (21,22).
Term of safety culture and safety climate do not have a clear distinction yet. Many authors use the terms safety culture and safety climate interchangeably (23). Safety climate is the perception and attitude of workers (individuals) regarding the safety culture in an organization regarding management commitment related to safety procedures, policies and practices (24). Griffin et al. developing a safety climate construct consisting of shared perceptions in the form of values and practices at all levels (25).
There has been a lot of research on patient safety culture in hospitals, such as research by Handler, et.al (26), Singer, et al (27), Kartika et al. (28), Kusumapradja (29). The patient safety climate research includes Matsubara, et al (30), Rachmawati (31). Meanwhile, safety climate research outside health services such as industry and construction includes Loosemore et al. (32), Sunindijo et al. (33), Marin et al. (34), and Probst et al. (35).
In Lebanon, research on sixty-eight hospitals using a questionnaire from Hospital Survey on Patient Safety Culture (HSOPSC), showed a relationship between patient safety culture and variables of reporting, communication, leadership and management, staffing, hospital size and accreditation status. Accredited hospitals have a better safety perception than non-accredited hospitals because accreditation is an improvement effort (El-Jardali, Dimassi, Jamal, Jaafar, & Hemadeh, 2011). In health services sector, there are eight frequently measurement instrument in safety culture, for example Safety Attitudes Questionnaire (SAQ), etc (36).
In Indonesia Liana et al. have conducted research on maturity of hospital safety culture using DUTA-RS (Dewasakan Upaya Tatanan Akreditasi Rumah Sakit)

instrument (37). Liana et al. carry out quantitative and qualitative measurements to deepen the maturity of the safety culture that has been implemented in hospitals (5,37). Measuring safety culture requires a combination of quantitative and qualitative methods so that measurement can produce a complete picture of safety culture through structured interviews, surveys, questionnaires, observations, focus group discussions (FGD), review of previous information, interviews and case studies (36,38,39).

Based on background above, it is necessary to conduct qualitative research on hospital safety culture to deepen the explanation of the safety culture that has been implemented in accredited hospitals, especially during the COVID-19 pandemic. This study aimed to obtain a qualitative description of safety culture during the COVID-19 pandemic in accredited hospitals.

MATERIALS & METHODS

This research used qualitative descriptive approach by selecting informants using purposive sampling. Data was obtained through primary data sources with in-depth interviews and Focus Group Discussions (FGD). Purposive sampling is a sampling technique by determining certain criteria. The criteria can be implemented in terms of costs and human resources (40).

The research was carried out at three accredited hospitals, they are Cipto Mangunkusumo Hospital, University of Indonesia Hospital, and Pertamina Jaya Hospital. Informants for this research include Quality Improvement and Patient Safety Committee or Hospital Patient Safety Committee, Hospital Occupational Safety and Health Team, Health Security and Environment (HSE), Human Resources, health workers from emergency room, Inpatient Installation, Outpatient Installation, Intensive Care Unit (ICU) Installation, Unit Laboratory, Medical Support, Pharmacy, Laundry, Nursing Sector, Medical Services Unit, Quality Services Sector, Non-Medical Support Services Sector, and Professional Development Sector.

The safety culture questionnaire used by researchers has forty-two questions which are grouped into 6 (six) indicators or factors that exist in safety culture, namely: management commitment (leadership), safety communication, rules, and procedures (regulations), supportive environment, personal involvement (participation), and safety training (32,33). Focus Group Discussion (FGD) and In-depth Interview question instruments refer to Safety Culture Questionnaire by Loosemore et al. (32) and Sunindijo et al. (33) which has been modified. The FGD instrument contains forty-two questions, and the interview instrument contains ten questions.

Data collection was carried out using triangulation methods to maintain the credibility of the data. The qualitative data analysis technique is carried out using narrative analysis. The information obtained from the informant is retold narratively in order to study the informant's life referring to the research problem (41,42).

This research has passed ethical review from the Research and Community Health Service Ethics Committee, Faculty of Public Health, University of Indonesia with number 434/UN2.F10. D11/PPM.00.02/2020.

RESULT

A. Management Commitment (Leadership)

Management's commitment includes leadership conducting outreach to increase employee awareness, especially health workers to implement safety culture program during pandemic. Health workers always report to their supervisors, always apply social distancing in the environment and outside the work environment and carry out daily check-ups before work as well as routine health screening, both rapid and Polymerase Chain Reaction (PCR) swab tests.

Hospital management's commitment through management walkthroughs aims to monitor health workers' compliance with the rules that apply in hospitals regarding work safety and patient care. It also has the function of seeing whether there are any hazards or health risks that must be

immediately mitigated. This activity usually conducted once a month routinely, as well as special inspections conducted every two months by directors, deputy directors, hospital occupational safety and health (OSH) officers, Infection Prevention and Control (IPC), quality management and related units. Monitoring activities can also be conducted by each division head, which are more internal in nature and are carried out every day while on duty.

There is also monitoring for various patient service activities through daily reports. Another commitment from leadership after carrying out management walkthroughs as well as supervision and evaluation carried out by department heads or supervisors every day is providing feedback to health workers about which procedures need to be improved. Hospital OSH officers have collaborated with IPC committees to carry out management walkthroughs in providing outreach or training to workers. Worker behavior that could endanger patient safety and environment is also identified. Next, monitoring and evaluation is carried out by hospital occupational safety and health, as well as a review of existing findings with the aim of future improvements.

B. Safety Communication

Safety communication is demonstrated by socialization of safety culture, including occupational safety and health, to all workers in the hospital, starting from the highest level up to outsourcing regarding the rules on how to carry out work while in the hospital. Since pandemic, hospitals have held socialization more frequently than before the pandemic. During the socialization, several things were conveyed related to the security and safety of workers, patients, environmental safety and et.al. Routine socialization is carried out every year from each division. Apart from that, it is refreshing for old workers regarding renewal. There is also incidental outreach, if it is urgent and emergency, such as a needle stick incident. After socialization, then feedback is given by the leadership to its subordinates, e.g. sharing knowledge with workers through 3 (three) methods:

a. Direct e.g.: alerting workers directly at the scene if unsafe behavior occurs.
b. Meetings, e.g.: regular meetings held once a month, internal meetings once a week. Likewise, there are non-routine meetings that are incidental, such as inspections, room control, etc.
c. Media, e.g.: posters, flyers, standing banners, etc.

Hospital management conducts an evaluation after socialization and feedback every semester. Communication between supervisors and subordinates in the workplace is especially important. According to the informant, the lack of communication was caused by the complexity of the procedures in place so that it took a long time to complete. Communication between supervisors and subordinates is conducted with a personal approach. Hospitals are always informative and communicative with patients and workers, both health workers and non-health workers. Workers directly ask for information about why unsafe behavior occurred. Furthermore, the leader gives directions for problem solutions. Other workers gave socialization to prevent this unsafe behavior from occurring.

C. Rules and Procedures (Regulation)

According to informant, the establishment of regulations regarding safety culture in hospitals has been contained in guidelines related to safety, health, and security as well as the hospital environment. After implementing the regulations, a safety implementation survey must also be held. Once implemented, these hospital safety regulations must always be evaluated periodically. The purpose of creating and implementing these regulations is to serve as a reference or guide for health or medical personnel to behave safely in carrying out medical procedures.

Safety culture regulations existed long before the emergence of COVID-19, but the pandemic has shown that these regulations have become more important because health and non-health workers have a reference for

behaving and behaving safely, both for their own safety and the safety of patients and their families. This regulation stipulates that all workers, both medical and non-medical personnel, permanent employees, and non-permanent employees, even outsourcers, have an obligation to maintain a respectful and respectful attitude towards each other. Regulations are available for every worker who is obliged to carry out work in accordance with the guidelines, guidelines or procedures that apply in the hospital.

Hospital regulations also regulate duties and responsibilities of each implementer in multilevel. All officers must always respect each other, create effective communication with fellow workers, staff, management, patients, and the community. Carrying out professional ethics properly and correctly, carrying out work in accordance with existing SOPs. However, there are several obstacles in the implementation of regulations. This regulation was prepared to regulate behavior of workers in the hospital environment so that it does not endanger the safety of themselves or other workers, patients, and other people in their work environment.

D. Supportive Work Environment

Hospitals have implemented a safety culture for patients and fellow workers, whether co-workers, professional colleagues, or other workers, with mutual respect, which automatically creates a conducive work environment. The work environment in physical form as hospitals needs attention from the leadership because it is related to infection and IPC committee to improve it for supervisors.

To create a work environment, it is necessary to minimize or eliminate hazards that hinder the program implementation. There are efforts to eliminate this condition as soon as possible by making several improvements. However, efforts to improve it are sometimes hampered by complicated bureaucracy. This condition gives rise to the perception that the hospital management is considered less responsive and slow in dealing with this condition.

Regarding management's concern for implementation of safety culture program, management will provide rewards and consequences. Furthermore, rewards are given. Consequences have been given to hospital workers who have not implemented safety culture. The consequences given are in accordance with the severity of the violation committed. The form of consequences can be in the form of a letter of warning or other forms, e.g. when a health worker goes out of town without permission from his superior. Unsafe work behavior was found drinking alcohol in one of the hospital facilities, using personal protective equipment that did not comply with procedures, resulting in the spread virus, which occurred at the beginning of the hospital becoming a COVID-19 referral hospital, which is around April or May 2020.

E. Personal Involvement (Participation)

Indicators of personal involvement (participation) are considered important to support safety culture programs in accordance with regulations in the form of existing guidelines and guidelines as a reference for creating a safe work environment for hospital staff, patients, and safe for visitors. All levels have the same role in supporting the implementation of the safety culture program in the hospital so that it can run well. However, the contribution of each division is different, such as for clinical workers or workers who have direct contact with patients, they have their own regulatory guidelines which are contained in regulation from Health Minister.

Personal involvement is socialization and monitoring or mutual supervision and warning between health workers if there is unsafe behavior by reminding each other, socializing the results of monitoring and evaluation from hospital occupational safety and health, quality management. So, workers remind each other to continue implementing Safety Culture, therefore in this case all workers are involved. Routine

forms of monitoring, namely by means of routine control, outreach, then audits of compliance, especially in terms of compliance with health protocols during this pandemic, for example in the use of PPE. Hospital workers and contractors can carry out a comfortable communication process between themselves. They try to deliver warnings or reminders in a polite way and away from a culture of blaming each other.

F. Safety Training

Training that has been carried out by hospitals, such as OSH training, is held to equip, support, improve and develop workers' abilities. Training is one way for hospital management to communicate occupational safety policies and practices to workers. There are usually two types of training held, i.e.: routine training and incidental training. Regular training is carried out every 1-3 months. It regarding workers' implementation procedures and knowledge of the dangers around them and how to prevent them. To minimize the occurrence of undesirable events, each worker is also provided with SOPs regarding safety culture which refer to national guidelines regarding safety culture. Therefore, hospitals have fully contributed to both patient safety and employee safety regarding implementation of safety.

To improve workforce quality, hospitals carry out training for all divisions according to their fields and needs. This training is carried out regularly, both directly and indirectly. Before COVID-19, training was carried out offline, but since the pandemic, according to informants, training has been carried out online via zoom meeting. The current training topic is more about training related to preparing for COVID-19. Training is focused on IPC, e.g. hand hygiene, wearing PPE, removing PPE, handling waste, handling linen, and using Fire Extinguisher. The focus of training before and during the pandemic was almost the same, the difference only lay in the use of PPE, during pandemic there was training on the use of cover all level 3, level 2, level 1. However, before COVID-19, PPE was only on wearing masks and gloves. For more practical training, it is done offline by practicing directly.

G. Advantage of Hospital Accreditation

FGDs and in-depth interviews from three hospitals showed that the opinions of all informants regarding the role of hospital accreditation is important and needed in implementing safety culture in hospitals. Accreditation is important because it encourages all levels of workers in hospitals to assess that they have met standards that support work safety culture or safe behavior. Accreditation encourages management to pay attention to aspects of the hospital outside of patient service, which indirectly makes the hospital strive to improve in all aspects.

One of hospital accreditation used by JCI (Joint Commission International) accreditation, while the other two hospitals use KARS accreditation. Hospital accreditation begins with a self-assessment of all hospital workers regarding compliance with standards related to work safety culture. Improvements are made through a review process for workers. According to informants that reviews or evaluations whether hospitals that apply JCI or KARS accreditation should continue to evaluate all aspects related to hospital accreditation. The goal is that everything runs according to existing regulations, so the quality of service and safety is maintained.

Hospital accreditation plays a role in encouraging implementation of better safety culture through all indicators. According to informants in FGD and in-depth interview results, the six indicators that are felt to be the most important regarding accreditation and safety culture are leadership, training, and work environment. Accreditation encourages the commitment to carry out repeated evaluations of all aspects that influence hospital safety culture and the

quality of hospital services. This decision also covers the follow-up to the results of the assessment which can be in the form of new regulations, communication in conducting reviews and outreach, implementation of training and improvement of facilities and infrastructure to create a safe environment for patients and their families, workers including outsourcers and contractors as well as visitors.

DISCUSSION

This research shows that safety culture indicators that have been implemented in accredited hospitals during the COVID-19 pandemic include management commitment (leadership), safety communication, rules, and procedures (regulations), a supportive work environment, personal involvement (participation), and safety training. This is in accordance with several indicators of safety culture because of modifications to Cooper's theory (43) and safety culture maturity by Liana et al. (37).

All three hospitals showed that hospital had a safety culture and hospital OSH program. When COVID-19 arrived, hospitals had prepared themselves to make changes both in terms of regulations and the work environment in dealing with the pandemic, followed by leadership commitment, worker safety participation, good implementation of safety communication and carrying out training to support safety during pandemic. This is in line with previous research that hospital safety culture is accredited in the good category (37). A good culture is related to good safety performance while influences compliance of health workers in safe behavior (44,45).

A qualitative description of safety culture during pandemic in accredited hospitals was carried out to look at the workers' perceptions. This is in line with Wiegmann, et al. which states that safety climate is more dynamic and changes depending on certain types of environmental conditions. Climate is a temporary cultural measure or snapshot to view safety culture (36). Safety climate describes employee perceptions of organizational policies, procedures and practices related to work safety and helps all workers to understand the priorities given to work safety management and patient safety (46).

Informants stated that hospital leaders are very important in supporting the success of safety culture programs. This is in accordance with leadership which is a vision-based attitude and implementing strategic plans with the aim of establishing a safety culture (47). Strategy to improve safety culture, including forming a patient safety body, carrying out leadership walkarounds, providing education about basics of safety, root causes analysis (RCA), carrying out case reporting and analysis, implementing cooperation and communication, and having policies and procedures (48).

Commitment is also carried out by dividing the duties and responsibilities of all workers. Another leadership commitment can be realized by stopping and preventing the blaming each other. This is consistent with just culture recognizes that individuals should not be responsible for system failures beyond their control (49). An integrated safety culture requires strong leadership from management, increased worker involvement, and safety participation (50). Developing a positive safety culture in workplace, changing technology, implementing occupational safety and health management system (OSHMS) to develop a positive safety culture (51).

Informants conveyed the necessity of communication in supporting safety culture programs. Communication is usually carried out with socialization, e.g. socializing safety culture, OSH to all workers, outsourcing, and contractors. This is in accordance with the definition of communication as an action taken by someone to give and receive information about someone's needs, desires, perceptions, knowledge, or affective statements. Speak up culture is done as patient safety communication to avoid danger (52). Several studies report a positive relationship between speaking up and patient safety (53).

Informants mentioned the importance of regulations as a reference in supporting the implementation of hospital safety culture programs. In accordance with Sunindijo's research, it shows that there is strict enforcement of safety rules and procedures, a supportive and conducive work environment, as well as support from stakeholders to implement health and safety at work (33). Regulations related to safety also regulate the duties and responsibilities of each implementer up to the decision-making level. This is in accordance with the Health and Safety Policy which states that a workplace must have a health and safety policy. The policy created must state a commitment to ensuring safety (54).

The results also show that hospital environment has been adapted to COVID-19 conditions. A conducive work environment and available facilities can support the implementation of safety culture thereby reducing incidents. Management already has a reward and consequence system. This is in accordance with the transactional leadership style that focuses on tasks and completing specific tasks and provides motivation with rewards and punishments to employees (55). The work environment influences the safety culture carried out by the patient safety team in the form of supervision of care management (56).

In terms of participation indicators, the informants said that there had been involvement of workers at all levels from management and implementation levels in each function unit in supporting the safety culture program in accordance with applicable rules and procedures. Safety participation describes an individual's involvement in improving an environment that supports safety, for example participating in safety volunteer activities, helping other workers with safety issues and attending safety meetings (25).

There are usually two types of training, i.e. routine training and incidental training. Each worker is also provided with an SOP regarding safety culture which refers to national guidelines on safety culture. This is in accordance with solving patient safety problems with collaboration between clinical staff and leadership. Organizational commitment is demonstrated by providing resources such as staff, training, safe reporting and others for handling safety issues (57). Training is a follow-up to improvement efforts in increasing workers' abilities to meet accreditation standards. This is in accordance with training as a planned process to modify attitudes, knowledge or behavior and skills to achieve effective performance through learning experiences (58).

Based on FGD and in-depth interview, accreditation is very important in supporting implementation of safety culture. Accreditation encourages all levels of workers to meet standards in providing services that focus on quality and safety and to behave safely in carrying out daily tasks. This is in accordance with strategy to improve safety culture through walkarounds leadership and establishing a patient safety. Benefits of accreditation are improved quality, patient satisfaction, patient safety, cost effectiveness, and better hospital reputation (59). Hospitals that have been accredited have a better reporting frequency and perception of safety than hospitals that have not been accredited. Accreditation is an effort to improve health services (60).

The limitation of this research is hospitals studied were only in Jakarta. It is hoped that further research can develop with wider samples and areas. Research can also be combined with mixed methods to strengthen qualitative and quantitative results. In line with Hodgen et al. and Wiegmen et al. that measuring safety culture requires a combination of quantitative and qualitative methods so can produce a comprehensive safety culture, i.e. structured interviews, surveys, means of observation, FGD, review of previous information, interviews, and case studies (36,38).

CONCLUSION

Three accredited hospitals have implemented safety culture during COVID-19 pandemic as shown by description of six safety culture indicators, including: management commitment (leadership), safety communication, rules, and procedures (regulations), supportive work environment, personal involvement (participation), and safety training. Accredited hospitals have tried to implement safety culture well. This research strengthens previously research published by Liana et al. (37) regarding self-assessment of hospital safety culture maturity.

Declaration by Authors

Ethical Approval: Approved

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