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Organizational Culture and Role of Nursing in Patient Safety

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ABSTRACT

Purpose of the Research: Patient safety is the goal of all the activities undertaken in a Health care set up. In current times of use of technology and awareness of the patients, it is important to determine the culture of safety in an organization. Nurses, being the direct and immediate point of contact for patients need to be aware and have knowledge about their role in patient safety. **Methodology:** Prospective cross-sectional observational design study, with a structured 5-point Likert scaled questionnaire, simple random non-purposive sampling. The knowledge, current practices, attitude of critical care nursing staff, organization culture toward patient safety, and reporting of events were studied. **Results:** Most of the participants expressed their positive view about patient safety procedures in the hospital. Nurses had knowledge about errors and safety in 74% of cases, but reported informally in 60% of cases. More than 75% nursing staff was dependent on the peer group and seniors for discussions about patient safety issues in the organization. The culture of audits (in 45% cases) and competency based training was done in 37% cases. Nursing was committed to safety in 55% of cases and positive attitude about being open and honest in accepting their mistakes in 61% of cases. Overall grade in patient safety was above 60%. **Conclusions**: Overall, the culture of patient safety, perception about safety, and role of nursing officers is well understood by them. However, reporting system, formalization of patient safety aspects, that is, development of nursing "practice environment" should be undertaken to improve the patient safety with involvement of patients at this Super Specialty Hospital.

Keywords: Communication, Error, Nosocomial infection, Reporting, Safety

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Introduction

Healthcare is the largest industry in the world and extraordinarily varied in terms of activities involved and the manner of its delivery. We are faced with mainly obstinate, complex problems which are deeply deep-rooted within our health-care system. The World Health Organization (WHO) states that "Patient safety is a health-care discipline that emerged with the evolving complexity in health-care systems and the resulting rise of patient harm in health-care facilities. It aims to prevent and reduce risks, errors, and harm that occur to patients during the provision of health care."[1] In the context of the patient safety, an error is an occurrence that happens because of failure to do something that should have been done to or for a patient (error of omission) and doing the wrong thing to or for a patient (error of commission).[2] It is estimated that each year millions of patients worldwide suffer disabilities, injuries, or death due to unsafe medical care and that around 50% of these harmful outcomes are preventable.[3,4]

A corner stone of the discipline is continuous improvement based on learning from errors and adverse events.[5] The International Organization for Migration report calls for all involved in healthcare to reduce the burden of illness, injury, and disability and to improve health and functioning. It

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defines the type of health-care delivery system needed (safe, effective, patient-centered, timely, efficient, and equitable) as shown in Figure 1.[6]

Certain management practices are essential to the creation of safety with in organizations and to the success of the organizational changes often needed to build stronger patient safety defenses. These practices include (1) balancing tension between production efficiency and reliability (safety), (2) creating and sustaining trust throughout the organization, (3) actively managing the process of change, (4) involving workers in decision making pertaining to work design and work flow, and (5) using knowledge management practices to establish the organization as a "learning organization." Evidence shows that these practices are not employed in many nursing work environments.[7]

Nurses are the key players because they have the most direct and immediate contact with patients, and are therefore most likely to have critical information about the feelings and physical condition, information which is needed by the other members of the team. Collegian Journal article depicts the wide-ranging quality and safety role expectations of nurses. It assumes the nursing workforce is equipped to fulfill its responsibilities.[8] Nurses are health-care professionals who are most likely to intercept errors, and prevent harm to patients.[9] Arguably, the quality of healthcare may be compromised if nurses are not aware of the breadth of their responsibilities, do not accept those responsibilities, or do not feel equipped to fulfill those responsibilities.

Errors often occur during the transitional phase of any system, hence, continuity of care is most critical during the patient's transition from the institutional acute setting to the community; however, the reality often is the antithesis of the seamless care concept. Good communication between the patients, caregivers, and providers and comprehensive transitional care plan are crucial for successful medical management during this period.[10] Systematic factors related to change, technology, fast-paced work environments, and restricted resources have a crucial bearing on nurses' ability to prevent or minimize harm.[11]

Patient safety interventions would not be successful without a receptive culture for safety. The culture can only occur by engaging leaders in the organization who understand the importance of patient safety and is committed to enhance it.[12] Health organizations which promote strategies focused on delivering value to patients and practice environment where professionals feel more autonomous are more likely to produce benefits.[13]

Theories associated with safe healthcare system

There are two main factors, human factors and system factors for errors in healthcare. Errors related to human factors are:

Cognitive psychology theory

This provides a framework for understanding the complex circumstance and human vulnerabilities that lead to mistakes due to individual cognitive functions. The unsafe acts committed by individuals can be characterized as unintentional errors and intentional errors (slips, lapses, or mistakes), or intentional violations. Unintended actions may lead to two types of error- attention errors (slips) or memory failures (lapses). Intentional actions may lead to knowledge or skill-based errors (mistakes), violations. Violations are motivationally rooted and social in nature, only understood in a context of an organization.[14] In medical and nursing literature, competency is classified according to knowledge, skills, and attitudes.[15-20]

Organizational (system) factors

Relate to the conditions under which individuals work. Unit structural variables comprise the factors within the practice setting that influence nurse's ability to engage in effective role performance. These include variables such as nurse staffing, leadership, and structure to support role clarity and professional autonomy. These include effective patient safety and clinical governance, financial resources, educational system, and hospital design.[21]

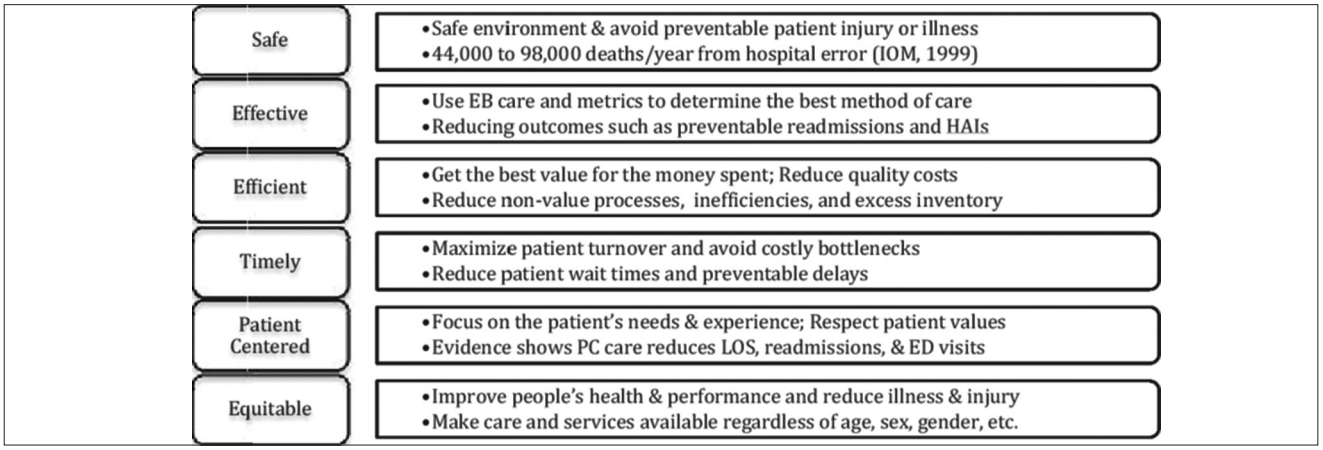

Figure 1: Institute of medicine's six aims for improvement

Various studies have shown that the following are the most common patient safety issues: Medication/drug errors, health-care-associated infections, surgical errors and post-operative complications, diagnostic errors, laboratory/testing errors, injurious falls, communication errors, and patient identification errors.[22]

Methodology

An institutional based, prospective cross-sectional study with an observational design was undertaken from March 2021 to April 2021, at a tertiary care Super Specialty Hospital. The data were collected using a study instrument, a structured and pre-tested questionnaire. The questionnaire was in English. It was a 5-point Likert scaled questionnaire which had five sections having a total of 26 questions. Four questions were on knowledge about error and patient safety, six questions about communication, and 11 questions about nosocomial infections (NIs), their knowledge and prevention. Five questions about safe practices, overall grade of the hospital in patient safety. 5th section was an open-ended question about patient safety comments or experiences, if any. The appropriateness of the instrument was measured through a pre-test exercise before applying the instrument, the researchers engaged different experts to evaluate and finalize the instrument. The principal of naturalistic enquiry was attempted which assisted the researchers to gain an understanding of the real world context as it is experienced by the participant. The knowledge, current practices, their attitude toward safety in relation to patient care, reporting culture in the organization was studied.

With regard to the open questionnaire, the framework method uses interviews with the participants that further helps to judge the responses received. It applies the principles of qualitative analysis to a series of interconnected stages that guide the process. The comments given were analysis and discussed in this paper.[23] The eligibility criteria were nurses working in the same hospital for at least more than 1 year, critical care nurses since this hospital is a Super Specialty Hospital having 60% of beds as critical care beds.

Data collection

Simple random non-purposive sampling was done among nursing officers whereas an attempt was made to include all the nursing staff as per eligibility criteria. The questionnaire was administrated during all the three shifts to compare the facilities and processes during peak and lean hours among 70 nursing staff. The participants were told about the purpose and objective of study before the data collection. The anonymity of the participants was kept confidential since no name was written, and only coded numbers were used.

Statistical analysis

The survey responses were entered into an Excel spreadsheet and descriptive statistics were analyzed using SPSS 17.0 software. Continue variables are presented as mean SD. Categorical variables are expressed as frequencies and percentages. The lower (negative) scale of grading (1, 2, 3) in Likert scale was considered as "no" and the positive scale corresponding to 4, 5 was clubbed as to consider "yes." Nominal categorical data between the groups were compared using Chi-squared teat, $P < 0.05$ was considered statistically significant. Furthermore, the transcript of open-ended questionnaire was done alongside the final categories and making adjustment as necessary.

Results

This study revealed the knowledge, attitude of the participants, and organization safety culture w.r.t to patient safety at this tertiary care Super Specialty Hospital. Most of the participants had worked for more than 3 years in the organization as depicted in Table 1.

The mean age of the participants was 32 years (minimum age was 24 years and maximum age was 40 years). Regarding knowledge of errors and their reporting, 74% had knowledge about errors, and 87% knew about the rights of medication but they were not aware of the reporting mechanism of errors as shown in Tables 2 and 3. On enquiring further in the open questionnaire, the information about any error occurred was reported to nursing in-charge but did not follow-up further.

The staff was reporting the errors to their senior/supervisors in 78% of cases, and there was free and robust communication among the unit staffs in about 87% of cases. There were discussions about errors and their prevention in 53% of cases as depicted in Table 3.

The nursing staff was aware of the statutory requirements as it was enforced from time to time by the organization such as hand hygiene (76%), wearing of personal protective equipment (PPE) (100%), and waste handling (78%). Assessment audits were conducted regularly 78% in urinary catheter related infections and 82% in central line-associated

Table 1: Work experience of nursing officers in the hospital

Experience (in years)	
<1 year	12.90%
1–3 year	25.70%
3–5 years	21.40%
>5 years	40.00%

Table 2: Errors and safety measures

Level of knowledge	Yes (%)	No (%)
Medication error	74	26
Rights of medication	87	3
How to report error	10	90
Role of HCO in error reporting	18	88

bloodstream infections (CLABSIs) but precautions to prevent hospital acquired infections and actual action taken was required as depicted in Table 4.

The hospital routinely conducts audits in only 45% of cases and competency based training is done in 37% cases only. The identification of hazards is done mostly in 72% of cases which relates to the knowledge of nurses and their number of years in the organization. The attitude of nurses and their commitment to be honest about their mistakes was largely positive as depicted in Table 5. Overall safety culture was very good in 52% nurses as depicted in Table 6.

Discussion

In the study, most of the nurses, 74% had knowledge about the patient safety in relation to medication error, prevention of NI. However, knowledge was good in cases, average of 75%, where the topics are covered under statutory requirements, common topics such as hand hygiene and PPE. It seems that being a COVID dedicated hospital, and enforcement by the government agencies played a major role.[24] It was observed that culture of nursing units in the hospital had good communication, such as staff is free to inform errors in the unit. Staff is free to make decisions regarding safety and is not afraid to ask questions. This is comparable to other studies, where nurses have relatively low perceptions of working conditions and high perception of safety climate. Safety culture attitudes are reflection of complex culture that result from the complex interactions among unique individuals and unique circumstances over time.[25] Since, the culture of safety was still to be well established in the institute, the formal reporting of error was low which was comparable to other studies of similar nature.[26] This is comparable to our study where 61% nurses had a positive attitude toward patient safety.

The routine audits are conducted in only 45% of cases. The competency based training program is done only 37% of the time. Still the identification of hazards is very high, 72%. This relationship between training and high level of identification of hazards is not understandable. Probably, the time period spent in the organization, very good communication among the nursing units can be an explanation for the same. This result could be explained by more experienced senior health professionals/supervisors. The reporting mechanism, that is, free communication of errors, feedback regarding errors, and their prevention was not formalized.

Governments, health-care organizations, researchers, and educators have come to recognize the key role that communication plays in patient safety and the provision of quality healthcare. This leads to the international adoption of particular model of patient care and communication known as patient centered care. Patient centered care is now being posted as the most effective and safe model of health-care delivery.[27]

The importance of health-care professional's education and regular training has to be emphasized to gain information, ability and attitude for safety patient car as regular training sessions. Providing patient safety is an important topic that every country has to care about regardless of development level. Each year millions of people have died or have fallen in non-recoverable permanent diseases because of health professionals errors. Patient safety is the responsibility of all health professionals.[28-30] This studies show the importance of continuous patient safety education and training to be

Table 3: Communication regarding errors/events

Communications (frequency of occurrence of events)	Never/ rarely (%)	Sometimes/ mostly/ always (%)
Feedback about changes regarding patient safety in organization given	70	30
Free communication by staff about patient safety issues	39	69
Information about errors happening in the unit	22	78
Staff free to make decisions	13	87
Discussion about ways to prevent errors in the unit again	47	53
Afraid to ask questions when safety compromised	80	20

Table 4: Knowledge about NI's

NI's (knowledge)	Yes	No
Hand Hygiene	76%	24%
PPE	100%	0%
Safe Injection Practices	41%	59%
Routine Hospital Cleaning	37%	63%
Safe Waste Handling	78%	22%
Patient Care Equipment Processing	36%	0%
Safe Linen Handling	12%	88%
Precautions to prevent NI's	44%	66%
Actual Action to Prevent NI's	19%	81%
Patient with Urinary Catheters are accessed Daily	78%	22%
Hospital Monitors CLABSI	82%	18%

NI: Nosocomial infections, CLABSI: Central line-associated bloodstream infection, PPE: Personal protective equipment

Table 5: Practices regarding safety culture

Safe practices (depicts organization culture)	Yes (%)	No (%)
Hospital routinely audits	45	55
Hospital has competency based training program	37	63
Identification of hazards	72	28
Nurses committed to identify and address patient risk	55	45
Being open and honest about the mistakes and be acceptable	61	39

Table 6: Overall grade of safety

Grade	Poor	Acceptable	Very Good	Excellent
Overall Grade in Patient Safety	26%	19%	52%	3%

provided to all categories of staff, developing standard protocols and guidelines for supervision and monitoring along with training in risk management.[31] Governance in patient safety is required for development of patient safety framework and policy development and implementation. There is need for an active patient safety committee, directly reporting to higher management to provide resources for corrective and preventive action.[22] It is seen that the nursing staff discuss safety issues among themselves as any error done was reported to the immediate supervisor or in-charge nursing officer. However, the culture in hospital safety was underdeveloped which is comparable to culture in Taiwan, wherein the results revealed that safety climate received lower scores related to safety culture.[32]

The work environment within health-care organizations plays an important role in providing care to patients. Huges RG, put forth the following standards for establishing and sustaining healthy work environments: (1) Effective, skilled communication; (2) true collaboration that is fostered continuously; (3) effective decision making that values the contributions of nurses; (4) appropriate staffing that matches skill mix to patient needs; (5) meaningful recognition of the value of all staff; and (6) authentic leadership where nurse leaders are committed to a healthy work environment and engage everyone.[33]

The nursing "practice environment" is defined by organizational characteristics that can either facilitate or constrain professional nursing practice. Changes to the nurses' work environment need to focus on enabling and supporting nurses to provide high-quality and safe care. Nurses also need to possess certain competencies that reflect the nature of nursing in improving patient and systems outcomes, including evidence-based practice, patient-centered care, teamwork and collaboration, safety, quality improvement, and informatics.[13]

Role of nurses in improving patient safety

- Identify "wrong site, wrong procedure, wrong patient" errors – Nurses are like the second pair of eyes to physicians; therefore, it is nurse's duty to overlook patient during their entire hospital stay
- Catch medication mistakes: Nurses play an important role in medication management, that is why it is important that hospitals should have "quiet" stations for nurses to do this work without any interruption
- Educate patients about their medications: Improper usage and non-compliance with medication regimen is often the cause of harm in patients who have chronic conditions and who are on may be ten or more medications. Therefore, nurses should communicate properly with patient and their family members, explain them about prescribed medicines, answer their queries and motivate them to take medications
- Monitor patients for deterioration: As physicians cannot be present with all the patients at same time; therefore, it is nurses' duty to monitor suspicious post-operative incision sites, wound which is not healing, downhill progression of patient after their surgery or medications
- Proper Staffing of Nurses: Nurse-to-patient ratio plays an important aspect in patient safety. Adequate staffing with proper shift changes does not increase workload of nurses and indirectly improves patient outcome. Appointment of experienced nurses with training in dealing with complex clinical scenarios helps improve patient safety.

Conclusions

To summarize, the role of nurse in hospitals is pivotal in developing a patient-safety agenda as they are well positioned, to identify, establish, and support safe practices being at the fore front of direct patient care. Many of the features of patient safety do not involve financial resources; rather, they involve commitment of individuals to practice safely. Organizations that are committed to high-quality and safe care will not place nurses at the "sharp end" of care, but will focus on system improvements, proper training, and communications to overcome the challenges of patient safety.

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Conflict of Interest

None.

References

1. World Health Organization. Patients for Patient Safety. Available form: http://www.who.int/patientsafety/patients_for_patient/en [Last accessed on 2021 Sep 12].
2. Gluyas H, Morrison P. Patient Safety: An Essential Guide. London, United Kingdom: Palgrave Macmillan; 2013.
3. World Health Organization. The international classification for patient safety key concepts and preferred terms. In: Final Technical Report for the Conceptual Framework for the International

Classification for Patient Safety. Geneva: World Health Organization; 2009. Available form: https://www.who.int/patientsafety/taxonomy/icps_chapter3.pdf. [Last accessed on 2021 Sep 13].
4. World Health Organization. Patient Safety Research; 2012b. Available form: http://www.who.int/patientsafety/research/en [Last accessed on 2021 Sep 15].
5. Rodziewicz TL, Houseman B, Hipskind JE. Medical error reduction and prevention. In: StatPearls. Treasure Island, FL: StatPearls Publishing; 2021. Available from: https://www.ncbi.nlm.nih.gov/books/NBK499956 [Last accessed on 2021 Sep 15].
6. Institute of Medicine (US) Committee on Quality of Health Care in America. Crossing the Quality Chasm: A New Health System for the 21st Century, Improving the 21st-century Health Care System. Washington, DC: National Academies Press (US); 2001. Available from: https://www.ncbi.nlm.nih.gov/books/NBK222265 [Last accessed on 2021 Sep 18].
7. Page AE. Transforming nurses' work environments to improve patient safety: The institute of medicine recommendations. Pol Polit Nurs Pract 2004;5:250-8.
8. Oldland E, Mari B, Hutchinson AM, Redley B. A framework of nurses' responsibilities for quality healthcare-exploration of content validity. Collegian 2019;27:150-63.
9. Hughes RG, Clancy CM. Nurses' role in patient safety. J Nurs Care Qual 2009;24:1-4.
10. Henriksen K, Battles JB, Marks ES, Lewin DI, editors. Advances in Patient Safety: From Research to Implementation. Vol. 3. United States: Agency for Healthcare Research and Quality; 2005.
11. Boev C. The relationship between nurses' perception of work environment and patient satisfaction in adult critical care. J Nurs Scholarship 2012;44:368-75.
12. Weaver SJ, Lubomksi LH, Wilson RF, Pfoh ER, Martinez KA, Dy SM, *et al*. Promoting a culture of safety as a patient safety strategy: A systematic review. Ann Internal Med 2013;158:369-74.
13. Kieft RA, de Brouwer BB, Francke AL, Delnoij DM. How nurses and their work environment affect patient experiences of the quality of care: A qualitative study. BMC Health Serv Res 2014;14:249.
14. Reason J. Human Error. New York: Cambridge University Press; 1990.
15. Cronenwett L, Sherwood G, Barnsteiner J, *et al.* Quality and safety education for nurses. Nurs Outlook 2007;55:122-31.
16. Cowan DT, Norman I, Coopamah VP. Competence in nursing practice: A controversial concept--a focused review of literature. Nurse Educ Today 2005;25:355-62.
17. Chuenjitwongsa S, Oliver RG, Bullock AD. Competence, competency-based education, and undergraduate dental education: A discussion paper. Eur J Dent Educ 2018;22:1-8.
18. Garside JR, Nhemachena JZ. A concept analysis of competence and its transition in nursing. Nurse Educ Today 2013;33:541-5.
19. Madigosky WS, Headrick LA, Nelson K, Cox KR, Anderson T. Changing and sustaining medical students' knowledge, skills, and attitudes about patient safety and medical fallibility. Acad Med 2006;81:94-101.
20. Schnall R, Stone P, Currie L, Desjardins K, John RM, Bakken S. Development of a self-report instrument to measure patient safety attitudes, skills, and knowledge. J Nurs Scholarsh 2008;40:391-4.
21. Reason J. Human error: Models and management. BMJ 2000;320:768-70.
22. Pelzang R, Hutchinson AM. Patient safety issues and concerns in Bhutan's healthcare system: A qualitative exploratory descriptive study. BMJ Open 2018;8:e022788.
23. Smith J, Firth J. Qualitative data analysis: The framework approach. Nurse Res 2011;18:52-62.
24. Usta AE, Gülhan YB. Hekimlerin hasta guvenligine yonelik tutumlari. In: Proceeding of the Conference. Mugla, Turkey: Sağlık ve Hastane İdaresi Kongresi; 2011. p. 7-4.
25. Modak I, Sexton B, Lux T, Helmreich RL, Thomas EJ. Measuring safety culture in the ambulatory setting: The safety attitudes questionnaire-ambulatory version. J Gen Intern Med 2007;22:1-5.
26. Bodur S, Filiz E, Cimen A, Kapci C. Attitude of final year students of midwifery and nursing school on patient safety and medical errors" Genel Tıp Derg 2012;22:37-42.
27. Slade D, Manidis M, McGregor J, Scheeres H, Chandler E, Stein-Parbury J, *et al*. Effective clinician-patient communication: Strategies for communicating medical knowledge. In: Communicating in Hospital Emergency Departments. Berlin, Heidelberg: Springer; 2015. p. 97-124.
28. Wolf ZR, Hicks R, Serembus JF. Characteristics of medication errors made by students during the administration phase: A descriptive study. J Prof Nurs 2006;22:39-41.
29. World Health Organization. Global Standards for the Initial Education of Professional Nurses and Midwives. Geneva: World Health Organization; 2009. Available from: http://www.who.int/hrh/nursing_midwifery/en. [Last accessed on 2021 Sep 13].
30. Vaismoradi M. Nursing education curriculum for improving patient safety. J Nurs Educ Pract 2012;2:101-4.
31. Dückers M, Faber M, Cruijsberg J, Grol R, Schoonhoven L, Wensing M. Safety and risk management interventions in hospitals: A systematic review of the

literature. Med Care Res Rev 2009;66:90S-119.
32. Lee W, Wung H, Liao H, Lo CM, Chang FL, Wang PC, *et al*. Hospital safety culture in Taiwan: A nationwide survey using Chinese version safety attitude questionnaire. BMC Health Serv Res 2010;10:234-42.
33. Hughes RG. Nurses at the "Sharp End" of patient care. In: Hughes RG, editor. Patient Safety and Quality: An Evidence-based Handbook for Nurses. Ch. 2. Rockville, MD: Agency for Healthcare Research and Quality; 2008. Available from: https://www.ncbi.nlm.nih.gov/books/NBK2672 [Last accessed on 2021 Sep 13].