Indonesian Journal of Global Health Research
Volume 6 Number 1, Februari 2024
e-ISSN 2715-1972; p-ISSN 2714-9749
http://jurnal.globalhealthsciencegroup.com/index.php/IJGHR

DEVELOPMENT OF ISBAR-BASED ANESTHESIA UNIT HANDOVER INSTRUMENT WITH ANDROID APPS AGAINST COMPLETENESS PRE AND POST ANESTHESIA DOCUMENTATION IN THE INSTALLATION CENTRAL SURGERY

Dony Dwi Purnama Putra*, Abu Bakr, Laily Hidayati
Medical Surgical Nursing Specialist, Faculty of Nursing, Universitas Airlangga, Mulyorejo, Surabaya, East Java 60115, Indonesia
*donyp0328@gmail.com

ABSTRACT

The completeness of anesthesia records both electronically and handwritten is an important measure of information during perioperatives, as well as a legal document against anesthesia providers.The development of a handover instrument model with an android application with Kopelman model theory is needed in order to create an effective handover in the policy of supporting infrastructure and the implementation of anesthesia as an evaluation of the completeness of anesthesia documentation. This study aims to develop an ISBAR instrument with an android application as a guide for the handover of the anesthesia unit at the Central Surgical Installation of RSUD Haji Surabaya. Method: Research design using Research and Development (R&D). The independent variable is the development of ISBAR-based handover instruments, and the dependent variable taken is the completeness of pre- and post-anesthesia documentation. The population was taken as many as 34 nurse anesthetists and 100 pre and post anesthesia documentation, sampling using purposive sampling. The instruments used are questionnaires and observation sheetsResults: The trial of the anesthesia handover using the ISBAR instrument on the android application using the SUS questionnaire obtained 85 results meaning acceptable. Analysis: In stage 1 using descriptive analysis to determine the frequency of data, while in stage 2 using descriptive analysis presented in percentage to show the presentation of application test feasibility results. Conclusions: The development of ISBAR handover instruments with andorrid applications is suitable for use during operational services with Acceptability Ranges conditions that are acceptable. Grade Scale includes B. Adjective Rating: Worst Imaginable results are Excellent and Percentiles results are good.

Keywords: anesthesia; handover; ISBAR

First Received	Revised	Accepted
12 December 2023	18 December 2023	30 December 2023
Final Proof Received		**Published**
08 January 2024		09 February 2024

How to cite (in APA style)
Putra, D. D. P., Bakr, A., & Hidayati, L. (2024). Development of ISBAR-Based Anesthesia Unit Handover Instrument with Android Apps Against Completeness Pre and Post Anesthesia Documentation in the Installation Central Surgery. *Indonesian Journal of Global Health Research*, *6*(1), 237-248. https://doi.org/10.37287/ijghr.v6i1.2655.

INTRODUCTION

Completeness of documentation is a top priority in healthcare, which helps explain the services provided to specific people and improves the exchange of information between healthcare providers (Khan et al., 2020). In accordance with the Hospital Accreditation Standard book, one of the objectives of the KARS accreditation survey instrument is to carry out activities and documents (Sutoto, 2022). Especially in anesthesia units, where the quality of patient care is greatly influenced by the ability of health care providers to communicate through documentation as part of the treatment continuum. The World Health Organization of the World Federation of Societies of Anesthesiologists (WHO-WFSA) states that the completeness component of anesthesia documentation is the international standard for safe

anesthesia practices. These components include patient-related data, pre-anesthesia assessment, provider information, anesthesia drugs, anesthesia techniques, pre- and intra-anesthetic vital signs, postoperative orders, and patient outcomes (Taye et al., 2022). The completeness of both electronic and handwritten anesthesia records is an important measure of information during perioperatives, as well as a legal document against anesthesia providers (Søndergaard et al., 2019).

Key supplier barriers to documentation quality have been widely reported, including time constraints, workload, inadequate guidelines for completing documentation, institutional policies and educational discontinuity as the basis of the problem (Søndergaard et al., 2019). In the service of the Central Surgical Installation of the Hajj Hospital of East Java Province, the demand for services to avoid delays in surgical procedures causes obstacles in the handover of the anesthesia unit, so that the disability of the policy documentation of supporting infrastructure facilities and the implementation of anesthesia runs less optimally. Currently, the East Java Provincial Haji Hospital has made changes to medical records from manual to electronic medical records since March 2022 with the aim of improving patient care with accurate and transparent documentation. Studies that have been conducted by Hong Mershon et al., (2021) report that electronic handover tools integrated into Electronic Medical Record (EMR) systems are superior to paper-based approaches because they accelerate the real-time delivery of clinical information and data to team members during handover. So that structured records of communication related to acute changes in the patient's condition can be directly integrated into the EMR (Walle et al., 2023). The structure of the handover is expected to serve as a control over the quality of documentation. The use of ISBAR instruments with android applications will allow every caregiver to access critical things that have not been documented because they are directly connected to the Electronic Medical Record (EMR) so that the completeness of anesthesia documentation can run properly (Panesar et al., 2016).

The solution used in this study is to evaluate the policies, facilities and infrastructure of the handover, evaluate the implementation of pre and post anesthesia handover, evaluate the completeness of pre and post anesthesia documentation, followed by the development of ISBAR instruments into the android application. The development of the ISBAR handover instrument with an android application is expected to improve communication of critical matters conveyed in the handover and make every caregiver able to access critical matters that have not been documented because they are directly connected to the Electronic Medical Record (EMR). Based on this explanation, it is necessary to develop a handover instrument that is in accordance with the content of the documentation format, the characteristics of the room, and the role of the caregiver in order to create an effective handover as an evaluation of the completeness of anesthesia documentation.

METHOD

The design of this research is Research and Development (R &; D) which consists of two stages. Stage 1 is the identification of the problem using an exploratory descriptive design. Stage 2 is to conduct a feasibility test of ISBAR instruments based on the Android system. The samples in this study were 34 nurse anesthetists and 100 pre- and post-anesthesia documentation taken using the Purposive Sampling technique. The independent variable in this study is the development of ISBAR-based anesthesia unit handover instruments with android applications and the dependent variable in this study is the completeness of pre and post anesthesia documentation. The research instruments used are questionnaire instruments on the evaluation of anesthesia unit facilities and infrastructure policies, and observation

sheets on the evaluation of the completeness of pre- and post-anesthesia documentation. The questionnaire has been tested for validity and reliability with a Cronbach alpha value of 0.841. The application used has also been tested for validity using the System Usability Scale (SUS) method. Data collection techniques include observing and evaluating the policy of supporting infrastructure facilities and the implementation of the handover of the anesthesia unit as well as the completeness of pre and ppost anesthesia documentation, discussions through FGD and experts involving anesthesiologists, IT experts, Head of nursing, head of quality assurance, head of patient safety, chairman of the PAB committee, and coordinator of nurse anesthetist. The data analysis used is univariate and bivariate analysis to show the presentation of the feasibility results of the application test. The study was conducted at the anesthesia union of RSUD Haji Surabaya from August 2022 to August 2023.

RESULTS

The first stage carried out is to identify data through the characteristics of respondents and participants taken based on age to the last education, then evaluate policies, handover supporting infrastructure, evaluate the implementation of handover, and observe the completeness of pre and post anesthesia documentation, after that discussion through FGD involving anesthesiologists, IT experts, and nurse anesthetists as experts, then the preparation of the ISBAR checklist as a means of handing over policies for supporting infrastructure facilities and the implementation of anesthesia obtained from the results of the FGD.

Table 1.
Characteristics of Research Respondents for the Development of ISBAR-Based Anesthesia Unit Handover Instruments with Android Applications for the Completeness of Pre and Post Anesthesia Documentation at the Central Surgical Installation of RSUD Haji Surabaya, 2023

Characteristics of Respondents	Parameter	f	%
Gender	Man	25	73
	Woman	9	27
Age	25-40	14	41
	40-55	20	59
Education	D3 Nursing	5	15
	S1 Nursing	29	85
Officer Status	PNS	30	88
	PPPK	4	12

Table 1 Informs about the characteristics of respondents in terms of gender, age, education and employment status working at the Central Surgical Installation of RSUD Haji Surabaya found that most nurses are male (73%) and most respondents are over 40 years old (59%) with the most education is S1 Nursing (85%) and the career path of civil servants (88%). This shows that respondents have sufficient work experience so that they can actively participate in the research process Development of Isbar-based Anesthesia Unit Handover Instruments with Android Applications for the completeness of pre and post anesthesia documentation at the Central Surgical Installation of RSUD Haji Surabaya.

Table 2.
Results of Policy Evaluation of Handover Supporting Facilities and Infrastructure (n=34)

Criterion	f	%
Good	14	41
Enough	20	59
Less	0	0

Table 2 Shows that more than half of the total respondents i.e. 20 people (59%) revealed that the policies, facilities and infrastructure of anesthesia units in the category are sufficient. In addition, there were 14 respondents (41%) who disclosed policies, facilities and infrastructure

of anesthesia units in the good category. And none of the respondents disclosed the policies, facilities and infrastructure of anesthesia units in pre-anesthesia in the less category.

Table 3.
Results of Evaluation of the Handover of the Anesthesia Unit (n=24)

Criterion	f	%
Good	14	41
Enough	19	55
Less	1	4

Table 3 Shows that more than half of the total respondents i.e. 19 people (55%) revealed that the handover of the anesthesia unit in the category is sufficient. In addition, there were 4 respondents (41%) who revealed the handover of the anesthesia unit in the good category. And there was only 1 respondent (4%) who revealed the handover of the anesthesia unit in the less category.

Table 4.
Results of Pre and Post Anesthesia Completeness Evaluation

Pre Anesthesia	The (%)	No (%)
Incomplete pre-anesthesia documentation on patient B1-B6 status	88,2	11,8
Completeness of writing History Other comorbidities (comorbid)	100	0
Completeness of filling in the results of other supporting examinations (laboratory, x-ray, etc.)	100	0
Incompleteness of filling of ASA/ *Phisycal State* (PS) status determination	58,8	41,2
Incompleteness of filling anesthesia technique recommendations	79,4	20,6
Post Anesthesia		
The nurse does not write down the complete supplementary medication during durante surgery on the anesthesia documentation sheet	94,1	5,9
The nurse writes down the length of surgery and the length of anesthesia on the anesthesia documentation sheet	100	0
The nurse writes down the amount of bleeding, the amount of urine, the amount of other fluids (pathological fluid) on the anesthesia documentation sheet	100	0
The nurse does not write down the amount of *pre-anesthetic fluid and the amount of surgical durante fluid in full on the complete anesthesia documentation sheet*	91,1	8,9
The nurse completes signatures on the *surgery sign-in* sheet, intra-anesthesia status, and drug preparation sheet, anesthesia anesthesia tools and machines	100	0

Table 4. Informed of observations of the completeness of pre- and post-anesthesia documentation performed on 34 nurse anesthetists within one week shows that most of the documentation is incomplete. Evaluation of the completeness of pre- and post-anesthesia documentation was measured using an evaluation observation sheet instrument using the Gutman scale consisting of 10 kinds of assessments. Each assessment consists of 2 answer choices (appropriate and non-appropriate). The "appropriate" answer is scored 1 and the "non-conforming" answer is scored 0.

Table 5.
Analysis and Strategic Issues

Data	Strategic Issues
There is no reference related to the handover that contains the contents according to the needs of anesthesia documents	There is no standardization of handover in the anesthesia unit
Handover is only limited to ordinary passes, without any validation between nurses on duty	There is no guide/SPO regarding the handover of the anesthesia unit
Often the same need for medical records among service providers so that the recording / fulfillment of anesthesia documentation is disrupted	Recording of critical matters in anesthesia documentation is disrupted
Often the anesthesiologist has not written a postoperative order, thus delaying service during the patient's recovery period	There is no firmness / self-awareness from the anesthesiologist towards fulfilling postoperative orders so that services in the recovery room are delayed
Lack of accuracy in the nurse's search for laboratory results in the patient's medical record	Writing ASA status, comorbidities and anesthesia techniques

Table 5. Shows that 34 nurses did not have the ability to complete and correct documentation. The nurse needs an intervention to be able to understand effective communication of anesthesia documentation so that the handover of documentation will run well. Related nurses also need effective communication habits using ISBAR in accordance with standards so that no documentation writing is missed. With this method, it will provide the best service from what has been attempted, so as not to cause *miss perception* between nurses, nurses with doctors in charge, and nurses with patients. The results *of the FGD* there are 5 main themes that will appear in the development of ISBAR-based handover instruments with android applications, namely; the need for guidelines / references to the handover structure that can contain contents according to anesthesia documents, an agreement between the nurse on duty to validate the handover in the premedication room and recovery room, There is a need for Android application development so that when the handover is constrained by medical records, the nurse can carry out the handover accurately, the need for the commitment of every anesthesiologist or nurse anesthesiologist to remind again regarding the responsibility of postoperative orders after each anesthesia action, The need for a laboratory results menu on the Android application to make it easier for nurses to write ASA, comorbidities, and anesthesia techniques.

Table 6.
Results of Expert Consultation

Manual guide for using the application	1. Easy to understand and apply 2. Standards-compliant guideline writing 3. Maintain the privacy and security of patient personnel data	1. Systematics used according to standards 2. The description is explained in detail in easy-to-understand language
Username and *password*	1. Nurses must login using *username* and *password* before using this application	1. Nurses must maintain the confidentiality of their *respective usernames* and *passwords* so that they are not misused
Registration menu/scan *QR Code*	1. Users must scan the *QR code*	1. The authority to access the Hajj Hospital patient application (pure / private) 2. Access can only be done within RSUD Haji

Content of notes	1. The nurse can fill out several notes according to the quality of effective communication	1. The contents of the records must be in accordance with accreditation standards with standardized and non-variable record contents
Program Properties	1. As needed nurse handover 2. Android-based	1. The program should not be permanent and can be improved or updated in accordance with the dynamics of *the latest* ISBAR developments 2. It is necessary to think about access all *operating systems* can access this application program other than the android base such as *IOS-based* 3. The application can be downloaded for free and appears ads on the application as a regulation in the future

Table 6. Expert consultation was carried out to two doctors who are experts in the field of anesthesia, namely dr. Hidayat, Sp.An and dr. Wendy, Sp.An and an IT expert, Mrs. Santi, S.Kom on July 28, 2023. Expert consultation results were obtained on 5 themes, namely: the need for guidelines / references to the handover structure that can contain contents according to anesthesia documents, agreement between nurses in charge to validate the handover in the premedication room and recovery room, the need for android application development so that when the handover is constrained by medical records, nurses can carry out the handover accurately, The need for the commitment of every anesthesiologist or nurse anesthesiologist to remind again regarding the responsibility of postoperative orders after each anesthesia action, the need for a laboratory results menu on the Android application so that it makes it easier for nurses to write ASA, comorbidities, and anesthesia techniques

Table 7.
Application Due Diligence Results

Criterion	Skoring	Interpretasi	f	%
Aceptability Ranges	>70	Acceptable	34	41
Grade Scale	80-90	B	34	41
Adjectives Rating	75-85	Excellent	34	41
Best Imaginable	85-100	Good	34	41

Table 7. shows the results of testing Android-based applications to 34 respondents. After a detailed and thorough calculation, the final result of the *SUS* questionnaire is 85, which means that the *Acceptability Ranges* are *acceptable. Grade Scale* includes B. *Adjective Rating: Worst Imaginable* results are *Excellent* and *Percentiles* results are Good.

DISCUSSION

Based on the results of data analysis, more than half of the total respondents carried out the handover of the anesthesia unit in the sufficient category. The handover of the anesthesia unit in pre and post anesthesia includes several points that must be considered, including the delivery of all critical matters in the B1-B6 system (breathing, blood, brain, bladder, bowel, and bone) Based on pre and post anesthesia data. This aims to reduce the possibility of anesthesia complications which include respiratory complications such as: airway obstruction, hypoventilation, and hypoxemia. Complications of circulation include: hypotension, hypertension, and arrhythmia. In addition, in the post-anesthesia period, the occurrence of additional analgetic doses, hypothermia events, nausea, vomiting, is also a series of events from the impact of ineffective post-anesthesia handover and incomplete documentation content at the time of anesthesia (Kaltoft et al., 2022). Therefore, it is necessary to convey what critical matters are of concern related to the patient's condition, the goal is to minimize and prevent the occurrence of things that are not desirable. The handover of the anesthesia

unit in pre and post anesthesia also needs clarification and discussion if there are differences of opinion or things that are not yet clear.

The results of observations of the completeness of pre and post anesthesia documentation conducted on 34 nurse anesthetists within one week showed that most of the pre and post anesthesia documentation was incomplete, from the results of the evaluation illustrates the lack of maximum nurses in documenting both when pre anesthesia and post anesthesia are not carried out as effectively as possible. Key supplier barriers to documentation quality have been widely reported, including time constraints, workload, inadequate guidelines for completing documentation, institutional policies and educational discontinuity as the basis of the problem (Søndergaard et al., 2019). In the service of the Central Surgical Installation of Hajj Hospital, East Java Province, service demands to avoid delays in surgical procedures cause obstacles in the handover of the anesthesia unit, so that the mutilation of pre- and post-anesthesia documentation runs less optimally. This results in disruption of the effectiveness of recording complete and relevant critical information to carry out safe procedures and will threaten patient safety (Khan et al., 2020).

Based on the results of Focus Group Disscussion that has been carried out, there are 5 main themes that will appear in the development of ISBAR-based handover instruments with android applications, namely; the need for guidelines / references to the handover structure that can contain contents according to anesthesia documents, an agreement between the nurse on duty to validate the handover in the premedication room and recovery room, There is a need for Android application development so that when the handover is constrained by medical records, the nurse can carry out the handover accurately, the need for the commitment of every anesthesiologist or nurse anesthesiologist to remind again regarding the responsibility of postoperative orders after each anesthesia action, The need for a laboratory results menu on the Android application to make it easier for nurses to write ASA, comorbidities, and anesthesia techniques. The results of the evaluation will be raised as a strategic issue related to the preparation of ISBAR instrument development with an android application. Strategic issues will be used as material in Focus Group Discussion (FGD) activities. Audiovisual recordings and field notes containing opinions and clarifications of FGD results, copied and analyzed according to the results found. The results of the analysis will be consulted with experts, then a design for the development of ISBAR instruments based on android applications will be prepared.

Expert discussions that have been conducted by researchers show several results, including: experts suggest that the systematics used are according to standards, the description is explained in detail in language that is easy to understand and standardized, nurses must maintain the confidentiality of their respective usernames and passwords so that they are not misused, the authority to access the Hajj Hospital patient application with accreditation standards, the program should be able to updated in accordance with the development of ISBAR which is tailored to the needs of the service. It is necessary to think about access all operating systems can access this application program other than the Android base such as IOS-based, applications can be downloaded for free and appear advertisements on the application as a regulation in the future.

CONCLUSION

The preparation of the ISBAR application as a means of handover of the anesthesia unit is based on the results of the FGD and expert discussions, namely with 5 themes that will appear in the development of ISBAR-based handover instruments with android applications, namely;

the need for guidelines / references to the handover structure that can contain the contents according to the anesthesia document, agreement between the nurse on duty to validate the handover in the premedication room and recovery room, There is a need for Android application development so that when the handover is constrained by medical records, nurses can carry out the handover accurately, the need for the commitment of every anesthesiologist or nurse anesthesiologist to remind again regarding the responsibility of postoperative orders after each anesthesia action, the need for a laboratory results menu on the Android application so that it makes it easier for nurses to write ASA, comorbidities, and anesthesia techniques.. The results of the feasibility test of the ISBAR instrument with an android application at the Hajj Hospital of East Java Province, Surabaya, are suitable for use with Acceptability Ranges conditions, the results are acceptable. Grade Scale includes B. Adjective Rating: Worst Imaginable results are Excellent and Percentiles results are Good.

REFERENCES

Abdurrachim, R. & Chairunnisa, N. (2021). The role of sodium intake and liquid balance to overcoming breathing based on respiration rate (RR) on congestive heart failure (CHF) patients. Indonesian Journal of Nutrition and Dietetics, 8(2), 93.

Anita, C. A. &; Novitasari, D. (2017). Compliance with fluid intake restrictions against the duration of hemodialysis. Proceedings of the National and International Seminar of LPPM University of Muhammadiyah Semarang, 104–112

Aulia, F. (2019) Nucl. Phys., 13(1), pp. 104–116.

Braaf, S., Riley, R. and Manias, E. (2015) 'Failures in communication through documents and documentation across the perioperative pathway', Journal of Clinical Nursing, 24(13–14), pp. 1874–1884. doi: 10.1111/jocn.12809.

Brima, N. et al. (2021) 'Improving nursing documentation for surgical patients in a referral hospital in Freetown, Sierra Leone: protocol for assessing feasibility of a pilot multifaceted quality improvement hybrid type project', Pilot and Feasibility Studies, 7(1), pp. 1–13. doi: 10.1186/s40814-021-00768-5.

Burgess, A. et al. (2020) 'Teaching clinical handover with ISBAR', BMC Medical Education, 20(Suppl 2), pp. 1–8. doi: 10.1186/s12909-020-02285-0.

Fauziah, S. H. R. &; Rubaiah, N. (2020). Fluid Regulation in Adult Heart Failure Patients. Our Hope National Heart Center.

Fikriana, R. (2018). Sistem Kardiovaskuler. Deepublish. https://books.google.co.id/books?id=Rm9nDwAAQBAJ

Haddeland, K. et al. (2022) 'Experiences of using the ISBAR tool after an intervention: A focus group study among critical care nurses and anaesthesiologists', Intensive and Critical Care Nursing, 70(January). doi: 10.1016/j.iccn.2021.103195.

Hardiyanti, F. C., Rahmawati, D., Fauziyah, S. I., Nur, I. M., Nurhidayat, T. &; Algifari, T. (2022). The Effects of Digital-Based Education Provision Cardicraf on the Level of Self-Care Care Provision Cardicraf on the Level of Self-Care. 09(3), 278–284.

Humaidi, M. A. (2020). Effect of SMCKD application on improving self-management of fluid in chronic renal failure patients. Nursing Media: Makassar Health Polytechnic, 11(2), 1. https://doi.org/10.32382/jmk.v11i2.1901

Halladay, M. L., Thompson, J. A. and Vacchiano, C. A. (2019) 'Enhancing the Quality of the Anesthesia to Postanesthesia Care Unit Patient Transfer Through Use of an Electronic Medical Record–Based Handoff Tool', Journal of Perianesthesia Nursing, 34(3), pp. 622–632. doi: 10.1016/j.even.2018.09.002.

Hannan, E. et al. (2021) 'The surgical admission proforma: the impact on quality and completeness of surgical admission documentation', Irish Journal of Medical Science, 190(4), pp. 1547–1551. doi: 10.1007/s11845-020-02475-

Hosseini Moghaddam, M., Molazem, Z. and Momennasab, M. (2021) 'Challenges Associated With Patient Transfer From Postanesthesia Care Unit to Surgical Unit in Iran: A Mixed-Method Study', Journal of Perianesthesia Nursing, 36(5), pp. 518–525. doi: 10.1016/j.jopan.2020.10.011.

Intan Saraswati, N. L. G., Sri Antari, N. L. Y. & Suwartini, N. L. G. (2019). The relationship of family support with fluid restriction adherence in chronic kidney disease patients undergoing hemodialysis. Bhakti Husada Health Sciences Journal, 10(1), 45–53.

Jang, J. et al. (2013) 'The effects of an electronic medical record on the completeness of documentation in the anesthesia record', International Journal of Medical Informatics, 82(8), pp. 702–707. doi:10.1016/j.ijmedinf.2013.04.004.

Jimma, B. L. and Enyew, D. B. (2022) 'Barriers to the acceptance of electronic medical records from the perspective of physicians and nurses:A scoping review', Informatics in Medicine Unlocked, 31(May), p. 100991. doi: 10.1016/j.imu.2022.100991.

Joint Commission (2017) 'Sentinel Alert Event - Inadequate hand-off communication, Issue 58', (58), pp. 1–6. Available at: www.jointcommission.org.

Kaltoft, A. et al. (2022) 'ISBAR as a Structured Tool for Patient Handover During Postoperative Recovery', Journal of Perianesthesia Nursing, 37(1), pp. 34– 39. doi: 10.1016/j.jopan.2021.01.002.

Kamil, H., Rachmah, R. and Wardani, E. (2018) 'What is the problem with nursing documentation? Perspective of Indonesian nurses', International Journal of Africa Nursing Sciences, 9, pp. 111–114. doi: 10.1016/j.ijans.2018.09.002.

Kasaye, M. D. et al. (2022) 'Medical documentation practice and associated factors among health workers at private hospitals in the Amhara region, Ethiopia 2021', BMC Health Services Research, 22(1), pp. 1–13. doi: 10.1186/s12913-022-07809-6.

Ministry of Health of the Republic of Indonesia (2017) 'Regulation of the Minister of Health of the Republic of Indonesia Number 11 of 2017 concerning Patient Safety', pp. 1–14.

Khan, M. A. et al. (2020) 'Documentation compliance of in-patient files: A cross sectional study from an east India state', Clinical Epidemiology and Global Health, 8(4), pp. 994–997. doi: 10.1016/j.cegh.2020.03.010.

Kitney, P. et al. (2016) 'Handover between anaesthetists and post-anaesthetic care unit nursing staff using ISBAR principles: A quality improvement study', Acorn, 29(1), pp. 30–35. doi: 10.26550/2209-1092.1001.

Marantika &; Devi. (2014). Description of Adherence to Medical Recommendations in Terminal Renal Failure Patients Undergoing Hemodialysis Therapy in Medan City. University of North Sumatra.

Minarti, D. (2018). Nursing Care for Mr.A with Congestive Hearth Failure (CHF) in the ICCU Room of RSU Bahteramas Kediri. Scientific Papers, 4.

PERKI. (2020). Heart Failure Management Guidelines 2020. 2nd ed. In Indonesian Association of Cardiovascular Specialists 2020 (Vol. 6, Issue 11). Indonesian Association of Cardiovascular Specialists.

Pranata, S., Shing, L. C., Vranada, A., Chun, L. Y. & Armiyati, Y. (2021). The implementation of precision personalized care to improve diabetes patients ' self-management at taipei veteran general hospital : an observational study. 10(3), 1304–1307.

Putradana, A., Mardiyono, M. &; Rochana, N. (2021). Effect of Sodium Diet and Fluid Restriction Based on Android Application on Fluid Balance and Dyspnea in Congestive Heart Failure (CHF) Patients. JISIP (Journal of Social Sciences and Education), 5(1). https://doi.org/10.36312/jisip.v5i1.1768

Preston, N. and Gregory, M. (2015) 'Patient recovery and the post-anaesthesia care unit (PACU)', Anaesthesia and Intensive Care Medicine, 16(9), pp. 443– 445. doi: 10.1016/j.mpaic.2015.06.015.

Rachmah (2018) 'Optimizing Patient Safety through SBAR Communication in Handover', Idea Nursing Journal, IX(1), pp. 34–41.

Sharma, M. et al. (2021) 'Manual anesthesia record keeping at a tertiary care center: A descriptive cross-sectional study', Journal of the Nepal Medical Association, 59(244), pp. 1262–1266. doi: 10.31729/jnma.7117.

Sholihah, N., Fajri, F. N. &; Khairi, M. (2022). Record self-management fluid data in chronic kidney failure patients undergoing hemodialysis therapy at Abdoer Rahem Hospital based on Android. Indonesian Journal of Health Information Management, 10(1), 6. https://doi.org/10.33560/jmiki.v10i1.309

Søndergaard, S. F. et al. (2019) 'A Realistic Evaluation of Danish Perioperative Nurses' Documentation Practices', AORN Journal, 110(5), pp. 500–509. doi: 10.1002/aorn.12840.

Sumail, S. et al. (2022) 'Development of Bedside Handover SBAR with Applications Android against Patient Safety', Journal..., 14(September), pp. 685 702.

Taye, M. G. et al. (2022) 'Assessment of perioperative anesthesia record sheet completeness: A multi-center observational study', Annals of Medicine and Surgery, 79(June), p. 104103. doi: 10.1016/j.amsu.2022.104103.

Victoria, A., Evangelos, F. & Sofia, Z. (2015). Family Support, Social and Demographic Correlations of Non-Adherence among Haemodialysis Patients. American Journal of Nursing Science, 4, 60. https://api.semanticscholar.org/CorpusID:20012199

Wahyuni, T. & Jadmiko, A. . (2017). Description of Diet in Heart Failure Patients at the Heart Poly of Dr.Soeradji Tirtonegoro Klaten Hospital. Doctoral DIssertation, Universitas Muhamadiyah Surakarta.

Walle, A. D. et al. (2023) 'Readiness to use electronic medical record systems and its associated factors among health care professionals in Ethiopia: A systematic review and meta-analysis', Informatics in Medicine Unlocked, 36(December 2022), p. 101140. doi: 10.1016/j.imu.2022.101140.

Wilbanks, B. A., Geisz-Everson, M. and Boust, R. R. (2016) 'The role of documentation quality in anesthesia-related closed claims: A descriptive qualitative study', CIN - Computers Informatics Nursing, 34(9), pp. 406– 412. doi: 10.1097/CIN.0000000000000270.

Woldegerima, Y. and Kemal, S. (2019) 'Clinical audit on the practice of documentation at preanesthetic evaluation in a specialized university hospital', International Journal of Surgery Open, 16, pp. 1–5. doi: 10.1016/j.ijso.2018.10.006.

Zemedkun, A. et al. (2022a) 'Assessment of postoperative patient handover practice and safety at post anesthesia care unit of Dilla University Referral Hospital, Ethiopia: A cross-sectional study', Annals of Medicine and Surgery, 79(June), p. 103915. doi: 10.1016/j.amsu.2022.103915.

Zemedkun, A. et al. (2022b) 'Assessment of postoperative patient handover practice and safety at post anesthesia care unit of Dilla University Referral Hospital, Ethiopia: A cross-sectional study', Annals of Medicine and Surgery, 79(June), p. 103915. doi: 10.1016/j.amsu.2022.103915.