Vol.6 No.2 Hal. 1005-1011
November 2023

BEST JOURNAL
(Biology Education Science & Technology)
Fakultas Keguruan dan Ilmu Pendidikan

ISSN (Print) : 2614 – 8064
ISSN (Online): 2654 – 4652

# Implementation Of Patient Safety Based On The Availability And Safety Of Use Of Alkesdi In ICU Rooms And Central Surgical Installations Sembiring RSU In 2023

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**ABSTRAK**

Populasi dan sampel dalam penelitian ini adalah seluruh tenaga medis dan petugas medis yang bertugas di Ruang ICU dan Instalasi Bedah Sentral sebanyak 48 orang. Seluruh variabel dalam penelitian ini secara statistik berhubungan dengan Implementasi Keselamatan Pasien. Variabel surveilans merupakan variabel yang paling berhubungan dan memiliki peluang sebesar 7.205 kali dalam meningkatkan Implementasi Keselamatan Pasien di RSUD Sembiring dan sebagian besar kegiatan Inventarisasi, Dekontaminasi, Surveilans dan Recall di ruang ICU dan Bedah Sentral telah terlaksana dengan baik. Pihak Manajemen RSUD Sembiring dapat melakukan perubahan pada sistem inventaris alat kesehatan yang sebelumnya dilakukan secara manual dengan menggunakan form checklist menjadi sistem barcode untuk mempermudah proses inventarisasi dan mengurangi tingkat kesalahan dalam pengisian checklist inventaris, sehingga secara langsung akan berdampak pada pelaksanaan pemesanan alat kesehatan dan inventaris menjadi lebih efisien secara optimal serta perlu mengoptimalkan pengawasan terhadap Pelaksanaan Keselamatan Pasien oleh petugas seluruh tenaga medis dan petugas medis dengan cara melakukan pengisian form checklist secara konsisten terhadap pelaksanaan inventarisasi, dekontaminasi, pengawasan dan recall alat kesehatan sehingga dapat membantu memperlancar kinerja teknisi elektromedik khususnya dalam melaksanakan jadwal kegiatan perawatan dan checklist alat yang akan dirawat.

**Kata kunci**: inventarisasi, dekontaminasi, pengawasan dan recall, pelaksanaan keselamatan pasien, alat kesehatan

**ABSTRACT**

The population and sample in this study are all medical personnel and medical officers on duty in the ICU Room and Central Surgery Installation as many as 48 people. All variables in this study are statistically related to the Implementation of Patient Safety. The surveillance variable is the most related variable and has a 7,205 times chance of improving the Implementation of Patient Safety at Sembiring Hospital and the majority of Inventory, Decontamination, Surveillance and Recall in the ICU and Central Surgery rooms have been carried out. well executed. The Management of Sembiring Hospital can make changes to the medical device inventory system which was previously carried out manually by using a checklist form to become a barcode system to simplify the inventory process and reduce the error rate in filling out the inventory checklist, so that it will directly result in the implementation of ordering medical equipment and inventory to be more efficient. optimally and need to optimize supervision of the Implementation of Patient Safety by officers of all medical personnel and medical officers by consistently filling out the checklist form for the implementation of inventory, decontamination, surveillance and recall of medical devices so that it can help facilitate the performance of electromedical technicians, especially in carrying out maintenance activity schedules and checklists equipment to be maintained.

**Keyword:** inventory, decontamination, surveillance and recall, implementation of patient safety, medical devices

# I. PENDAHULUAN

## 1. Latar Belakang / Introduction

Hospitals, as health service providers, have the responsibility to analyze the systems implemented in their organizations, with the main aim of achieving optimal results for patients (DiCuccio, 2015). One of the most concerned outcomes across hospital analysis units is the issue of patient safety. Patient safety is a top priority for policy makers in the health sector, including health service providers and hospital management (DiCuccio, 2015). Patient safety culture is the result of the values, attitudes, competencies and behavioral patterns of individuals and groups that shape the commitment, style and ability of a health service organization in implementing patient safety programs (Ministry of Health, 2017). The dimensions of patient safety culture include openness of communication, feedback and communication regarding errors that occur, frequency of reporting incidents, handover and transition processes, organizational support for patient safety, non-punitive response to errors, organizational learning, continuous learning, general perceptions about patient safety, staffing, expectations from superiors/managers, as well as actions taken to improve patient safety, inter-unit cooperation and cross-unit collaboration (Sorra et al. 2016). The concept of patient safety culture is an important element in health service organizations, because by maintaining and maintaining this culture, patient safety will be well guaranteed. The relationship between nurse job satisfaction and patient safety can be explained easily; Employees who are satisfied and feel happy when working without being disturbed by poor working conditions tend to provide optimal performance, both in terms of patient safety and other performance aspects (Asegid, Belachew, & Yimam, 2014). Patient safety is part of hospital safety as a whole, which includes the safety of medical equipment and hospital buildings (equipment and building safety), hospital environmental safety (environment safety), hospital operational safety, and individual safety in hospital (personal safety) (DiCuccio, 2015).

## 2. Perumusan Masalah /Problem Formulation

The formulation of the problem in this study is: how are the results of research on the Implementation of Patient Safety Based on the Availability and Safety of Use of Medical Devices in ICU Rooms and Central Surgical Installations Sembiring RSU in 2023.

## 3. Tujuan Penelitian /Research Objectives

This study aims to obtain research data on the Implementation of Patient Safety Based on the Availability and Safety of Use of Medical Devices in ICU Rooms and Central Surgical Installations Sembiring RSU in 2023

## 4. Manfaat Penelitian /Benefits of Research

The benefits of this study are that it is hoped that the results of research on the Implementation of Patient Safety Based on the Availability and Safety of Use of Medical Devices in ICU Rooms and Central Surgical Installations Sembiring RSU in 2023 can be applied in the medical world, medical education, and applications to the community

## II. METODE / METHOD

This research uses quantitative research using a cross-sectional design with the aim of the analysis, namely to analyze the relationship between the availability and safety of using medical devices and the implementation of patient safety at RSU Sembiring in 2023.

| Variable | Frequency | Percentage % |
|---|---|---|
| Inventory | | |
| Good | 29 | 60.4 |
| Not good | 19 | 39.6 |
| **Total** | **48** | **100** |
| Decontamination | | |
| Good | 26 | 54.2 |
| Not good | 22 | 45.8 |
| **Total** | **48** | **100** |
| Surveillance | | |

The population in this study was all 48 medical personnel and medical officers on duty in the ICU and Central Surgical Installations. Sample selection in this research was carried out using total sampling, where the entire population was used as the research sample

## III. HASIL PENELITIAN / RESULT

### Univariate Analysis Test Results

Table 4.1. Frequency distribution of research variables

| | | |
|---|---|---|
| Good | 29 | 60.4 |
| Not Good | 19 | 39.6 |
| **Total** | **48** | **100** |
| Recall | | |
| Good | 31 | 64.6 |
| Not Good | 17 | 35.4 |
| **Total** | **48** | **100** |
| Implementation of Patient Safety | | |
| Done | 22 | 45.8 |
| Not implemented | 26 | 54.2 |
| **Total** | **48** | **100** |

Based on the results of research conducted on 48 medical personnel and medical officers who were research respondents, it was found that as many as 29 people (60.4%) stated that the inventory of medical equipment at RSU Sembiring was good and as many as 19 people (39.6%) stated that The inventory of medical equipment at RSU Sembiring is still not good.Furthermore, in the decontamination variable, it was found that 26 people (54.2%) stated that the decontamination of medical devices at RSU Sembiring was good and as many as 22 people (45.8%) stated that the decontamination of medical devices at RSU Sembiring was still not good.

### Bivariate Analysis Test Results

The relationship between medical equipment inventory and patient safety implementation at Sembiring General Hospital in 2023.

| Variabel | Medical Device Inventory | | | | | | |
|---|---|---|---|---|---|---|---|
| | Good | | Not Good | | Totaly | | p-value |
| | f | % | f | % | f | % | |
| Implementation of Patient Safety | | | | | | | 0,013 |
| Done | 18 | 37,5 | 4 | 8,3 | 22 | 45,8 | |
| Not implemented | 11 | 22,9 | 15 | 31,3 | 26 | 54,2 | |
| **Total** | **29** | **60,4** | **19** | **39,6** | **48** | **100** | |

From the explanation in the table above, it can be seen that the results of statistical tests using chi-square showed that the p value = 0.013 (< 0.05), which means there is a relationship between medical equipment inventory and patient safety implementation at Sembiring General Hospital. The relationship between decontamination of medical equipment and the implementation of patient safety at Sembiring General Hospital in 2023.

| Variabel | Dekontaminasi Alkes | | | | | |
|---|---|---|---|---|---|---|
| | Good | | Not Good | | Totaly | |
| | f | % | f | % | f | % |
| Implementation of Patient Safety | | | | | | |
| Done | 15 | 31,3 | 7 | 14,6 | 22 | 45,8 |
| Not implemented | 11 | 22,9 | 15 | 31,3 | 26 | 54,2 |
| **Total** | **29** | **60,4** | **19** | **39,6** | **48** | **100** |

From the explanation in the table above, it can be seen that the results of statistical tests using chi-square showed that the p value = 0.133 (> 0.05), which means there is no relationship between the description of medical devices and the implementation of patient safety at Sembiring General Hospital.

The relationship between medical equipment surveillance and patient safety implementation at Sembiring General Hospital in 2023.

| Variabel | Surveillance Alkes | | | | | |
|---|---|---|---|---|---|---|
| | Good | | Not Good | | Totaly | |
| | f | % | f | % | f | % |
| Implementation of Patient Safety | | | | | | |
| Done | 19 | 39,6 | 3 | 6,3 | 22 | 45,8 |
| Not implemented | 10 | 20,8 | 16 | 33,3 | 26 | 54,2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Total** | **29** | **60,4** | **19** | **39,6** | **48** | **100** |

From the explanation in the table above, it can be seen that the results of statistical tests using chi-square showed that the p value = 0.002 (< 0.05), which means there is a relationship between Medical Device Surveillance and Patient Safety Implementation at Sembiring General Hospital.

| **Recall Alkes** | | | | | |
|---|---|---|---|---|---|
| **Good** | | **Not Good** | | **Totaly** | |
| f | % | f | % | f | % |
| Implementation of Patient Safety | | | | | |
| 18 | 37,5 | 4 | 8,3 | 22 | 45,8 |
| 13 | 27,1 | 13 | 27,1 | 26 | 54,2 |
| **31** | **64,6** | **17** | **35,4** | **48** | **100** |

**Multivariate Analysis**

**Logistic Regression Analysis Results**

| | | Sig. | Exp(B) | 95% C.I.for Exp (B) | |
|---|---|---|---|---|---|
| | | | | Lower | Upper |
| Step 1[a] | Inventarisasi | .062 | 4.404 | .929 | 20.874 |
| | Surveillance | .070 | 4.997 | .879 | 28.423 |
| | Recall | .792 | 1.269 | .216 | 7.472 |
| | Dekontaminasi | .464 | 1.808 | .371 | 8.810 |
| | Constant | .003 | .006 | | |
| Step 2[a] | Inventarisasi | .055 | 4.524 | .966 | 21.190 |
| | Surveillance | .042 | 5.430 | 1.060 | 27.812 |
| | Dekontaminasi | .410 | 1.907 | .411 | 8.841 |
| | Constant | .003 | .006 | | |
| Step 3[a] | Inventarisasi | .073 | 3.804 | .882 | 16.406 |
| | Surveillance | .011 | 7.205 | 1.586 | 32.729 |
| | Constant | .001 | .013 | | |

The table above shows the results of the multivariate analysis, it is known that the Medical Device Surveillance variable is the variable most related to the Implementation of Patient Safety at Sembiring General Hospital, as evidenced by the table which is based on a p value of 0.011 < 0.05 with an exp (B) value in the results of the multivariate analysis, namely 7.205 so that It can be concluded that medical equipment surveillance is 7.205 times the risk of increasing patient safety implementation at RSU Sembiring.

**DISCUSSION**

**The relationship between medical equipment inventory and patient safety implementation at Sembiring General Hospital in 2023**

In the bivariate analysis of the medical equipment inventory, it was found that the results of statistical tests using chi-square showed that the p value = 0.013 (< 0.05) which can be stated that there is a relationship between the medical equipment inventory and the implementation of patient safety at Sembiring General Hospital. Medical devices are

instruments, apparatus, machines and/implements that do not contain drugs that are used to prevent, diagnose, cure and alleviate disease, treat sick people, restore health to humans, and/or form structures and improve body function (Permenkes RI, 2017). Health equipment management has the benefit of reducing the risk of harm from health equipment that may occur to patients and medical personnel. Health equipment that does not function optimally can have an impact on reducing the use of health services by the community at these health facilities (Widyasari et al., 2020).

**Relationship between Decontamination of Medical Devices and Implementation of Patient Safety at RSU Sembiring in 2023**

In the bivariate analysis of the Decontamination of Medical Devices variable, it can be stated that the results of statistical tests using chi-Square showed that the p value = 0.133 (> 0.05) which can be stated that there is no relationship between the inventory of Medical Devices and the Implementation of Patient Safety at RSU Sembiring.Hospitals are places of treatment, health service facilities that are a source of infection where sick people are treated.

**The relationship between medical equipment surveillance and patient safety implementation at Sembiring General Hospital in 2023**

Medical Devices (Alkes) are an important component in addition to health personnel and medicine in health service facilities. Based on Government Regulation Number 72 of 1998 concerning Safeguarding of Pharmaceutical Preparations and Medical Devices, it is stated that medical devices circulating and used in health services must have a distribution permit and guaranteed quality, safety, usefulness and affordability (Dwiastuti, 2016).Medical Device Sampling is the activity of taking samples of medical equipment products in circulation for further testing on the consistency of safety, benefits and quality of the product. Testing is the activity of examining medical equipment products in a laboratory accredited by the National Standardization Body (BSN) to ensure the suitability of circulating medical equipment and PKRT products in accordance with applicable standards (Datin Litbangkes, 2019).Post Market & Surveillance is a proactive activity carried out in the context of checking the conformity of the quality, safety and performance of equipment during circulation and assessing the conformity of initial records at the time of registration which is carried out by the government together with producers on a regular and ongoing basis through monitoring production facilities and distributors, audits quality system and product sampling on the market (Datin Litbangkes, 2019).

**Relationship between medical device recalls and patient safety implementation at Sembiring General Hospital in 2023.**

The recall of medical equipment is carried out by an electromedical technician (atem) after he has carried out a check and from the results of the check it is stated that the medical device is no longer suitable for use or requires a long time to repair. For the technical implementation itself, namely between the electromedical technician and the room that owns the medical equipment, there must be a handover carried out (Dwiastuti, 2016). In the bivariate analysis of the Recall Medical Devices variable, it can be stated that the results of statistical tests using chi-square showed that the p value = 0.046 (< 0.05) which can be stated that there is a relationship between Recall Medical Devices and the Implementation of Patient Safety at RSU Sembiring. In the hospital accreditation standards, medical device recalls are included in the hospital accreditation assessment. The existence of a recall system for medical equipment in hospitals is included in the MFK (Safety and Facilities Management) Working Group. In the 2022 SNARS version of the hospital accreditation standard, the hospital medical equipment recall system will be observed and the documents reviewed by surveyors.

## IV. KESIMPULAN / CONCLUSION

1. Sembiring General Hospital Management can implement changes to the medical equipment inventory system which was previously carried out manually using a checklist form into a barcode system to simplify the inventory process and reduce the error rate in filling out the inventory checklist, so that this will directly result in the implementation of medical equipment ordering and inventory to be more optimal.
2. The management of RSU Sembiring needs to optimize supervision of the Implementation of Patient Safety by all medical staff and medical staff by consistently filling in the checklist form for carrying out inventory, decontamination, surveillance and recall of medical equipment so that it can help facilitate the performance of electromedical technicians, especially in implementing schedules. maintenance activities and checklist of medical equipment to be maintained.
3. It is hoped that the North Sumatra Health Service can further improve monitoring and evaluation related to the implementation of inventory, decontamination, surveillance and recall of medical equipment in all hospitals and create follow-up policies.

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| Accepted Date | Revised Date | Decided Date | Accepted to Publish |
|---|---|---|---|
| 20 Oktober 2023 | 12 November 2023 | 21 November 2023 | Ya |