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Masters Program in Public Health, Universitas Sebelas Maret

Research

Evaluation of Clinical Pathway Implementation in Pneumonia Cases in the Internal Medicine Inpatient Unit at Risa Sentra Sentra Medika Hospital, Mataram with the Integrated Care Pathway Appraisal Tool (ICPAT) Method

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ABSTRACT

Background: In the health insurance system, there are 2 main pillars, namely service quality and financing control. The quality of health services can be identified by measuring the suitability of the service with the agreed clinical pathway. Data from SEAMIC Health Statistics 2011 shows that pneumonia is the 6th cause of death in Indonesia, therefore a good quality clinical pathway is needed. Integrated Care Pathway Appraisal Tool (ICPAT) is one of the instruments that has been validated and can be used to evaluate the content and quality of ICP.
Subjects and Method: Study design using qualitative methods and with a case study research design. Population: quantitative data population from all medical records, qualitative data population the researchers involved all officers involved in implementing the clinical pathways. Instrument: List of questions to evaluate the implementation of the use of clinical pathways and ICPAT. Validity: with triangulation techniques. Outcome: compliance assessment and recommendations for improvement to maintain quality.
Results: Input Aspect, In Dimension 1 What are the Correct Clinical Pathways? it the percentage content was 50%, and the quality was 50%. Dimension 6 (Organizational Role?) in the CP content value is 100% and the quality is 58%. Process aspect, Dimension 2 (Clinical Pathway Documentation Process) CP documentation process in terms of content is 30.43% and quality is 25%. Dimension 3 (Clinical Pathway Development Process) the content is 61.54% and the quality is 41.18%. Dimension 4 (Clinical Pathway Implementation Process) the percentage of content is 60% and the quality is 100%. Dimension 5 (Maintenance Process of clinical pathways) the percentage of the content is 25% and the quality is 38.46%. Aspects of Output Those who comply with using the clinical pathway are 0 (0%), meaning that no one is compliant in using the clinical pathway.
Conclusion: CP Pneumonia at Risa Sentra Medika Hospital complies with the ICPAT assessment standards but the quality and content only meet less than 50% based on the aspects assessed

Keywords: clinical pathway, pneumonia cases, ICPAT assessment.

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BACKGROUND

In the current health insurance or insurance system, there are two main pillars, namely service quality on the one hand and financing control on the other. The quality of health services can be identified by measuring the

suitability of the service with the agreed clinical pathway (Ministry of Health, 2005).

The clinical pathway must have been implemented in hospitals because health insurance systems such as the health BJPS require hospital management to be able to streamline costs and optimize hospital financial management, as well as carry out quality control (Ministry of Health, 2013).

Pneumonia is one of the lower respiratory tract disorders with a high treatment rate in Indonesia, where the 2011 SEAMIC Health Statistics data shows that pneumonia is the 6th leading cause of death in Indonesia. According to Indonesia's health data profile in 2011 pneumonia was ranked 10th in the list of the top 10 inpatient diseases in 2010 with a total of 9,340 cases for men and 7,971 for women.

The integrated Care Pathway Appraisal Tool (ICPAT) is one of the instruments that has been validated and can be used to evaluate the content and quality of ICP, which consists of 6 dimensions; dimension 1: This section ascertains whether the assessed form is a Clinical Pathway (CP), dimension 2: assesses the ICP documentation process, dimension 3: assesses the CP development process, dimension 4: assesses the ICP implementation process, dimension 5: assesses the ICP maintenance process, and dimension 6 : assess the role of the organization (RS).

SUBJECTS AND METHOD

1. Study Design

The study used qualitative methods and a case study research design in the inpatient unit of internal medicine at Risa Sentra Medika Hospital, Mataram. The research was carried out at the internal medicine inpatient unit at Risa Sentra Medika Hospital Mataram and took place from 11 October 2022 to 7 November 2022.

2. Population and Sample

Quantitative data samples were selected from all medical record documents in certain populations or by using the total sampling method. On the other hand, qualitative data samples are determined by targeted sampling. That is, the objective of the sampling criteria obtained is indeed obtained from sources that are in accordance with the objectives of the research conducted. Patient Care Doctor (DPJP), Doctor, Ward Manager and Nurse in charge of inpatients at Risa Sentra Medika Hospital, Mataram.

3. Inclusion and Exclution

On qualitative method inclusion criteria: the newest clinical pathway used at Risa Sentra Medika Hospital, Mataram, medical records of patients from January to March 2022 which are included in the category of pneumonia cases, clinical pathways that have been ongoing and implemented at the Mataram Risa Sentra Medika Hospital.

Exclusion criteria: were in the form of notes and medical records that were difficult to read, or some manuscripts were lost and incomplete.

On qualitative methods inclusion Criteria: resource persons who have been determined by researchers and are involved in the use of the pneumonia clinical pathway and are willing to become resource persons. The resource person is still working and on duty at the Mataram Risa Sentra Medika Hospital from that period to today and officers who are part of the internal medicine inpatient unit at Risa Sentra Medika Hospital, Mataram.

4. Operational Definition of Variables

Clinical pathway pneumonia A combined guideline for the care of pneumonia patients that focuses on diagnosis and clinical problems, as well as stages of care. An ICP assessment consists of forms of clinical pathways, clinical pathway documentation, development of clinical pathways, Implementation of

clinical pathways, maintenance of clinical pathways, clinical pathway compliance, the role of the hospital in implementing clinical pathways.

Form and structure of clinical pathway Type of clinical pathway in the internal medicine inpatient room at Risa Sentra Medika Hospital, Mataram.

Documentation of clinical pathways. The process of storing clinical pathways in the internal medicine inpatient room at Risa Sentra Medika Hospital, Mataram.

Development of clinical pathways. The process continues from documentation to the application of clinical pathways in the internal medicine inpatient room at Risa Sentra Medika Hospital, Mataram.

Implementation of clinical pathways. The process of implementing clinical pathways in the internal medicine inpatient room at Risa Sentra Medika Hospital, Mataram.

Maintenance of clinical pathways. The process of maintaining clinical pathways in the internal medicine inpatient room at Risa Sentra Medika Hospital, Mataram.

5. Study Instruments

Interview guide list of questions to evaluate the implementation of the use of clinical pathways in cases of pneumonia.

The Integrated Care Pathway Appraisal Tool (ICPAT), ICPAT is one of the instruments that has been validated and can be used to evaluate the content and quality of ICP, which consists of 6 dimensions.

Validity and Reliability Test , First of all, the researcher uses triangulation, Triangulation is a data validity checking technique that utilizes something else in comparing the results of interviews with research objects.

6. Data analysis

Quantitative Analysis, Descriptive analysis was carried out through observation to determine documentation adherence to the implementation of the clinical pathway for pneumonia cases.

Qualitative Analysis, In terms of the results of the evaluation of the implementation of the clinical pathway in pneumonia patients who were examined by researchers and adapted to the actual situation and conditions by conducting more in-depth interviews to clarify the implementation of the clinical pathway in pneumonia cases. How to do a qualitative analysis, namely: Analysis of the extent to which data is actually obtained and has been carried out continuously during the research period, the data is then presented in the form of narrative, reduction, coding, and so on and making research conclusions and determined by comparing research questions with research results.

RESULTS

The research was carried out by starting observations from the internal medicine inpatient room at Risa Sentra Medika Hospital, Mataram, then assessing every aspect of both the input, process and output of using CP Pneumonia in the ward. The following is the flow of research that will be carried out.

On the input aspect, the number of human resources (HR) and workload in the internal medicine inpatient ward: 2 Internal Medicine Specialists, 1 Pulmonary Specialist, 1 Head of Internal Medicine Inpatient Room, 16 Nurses, 2 Nurse Assistants Person and Administration 1 Person. Meanwhile, the average number of inpatients with internal medicine is more than 135 patients per month. This study conducted an evaluation of clinical pathways from January to March. Data obtained on the number of inpatients in the internal medicine inpatient ward from January to March 2022 are mentioned in the table 1.

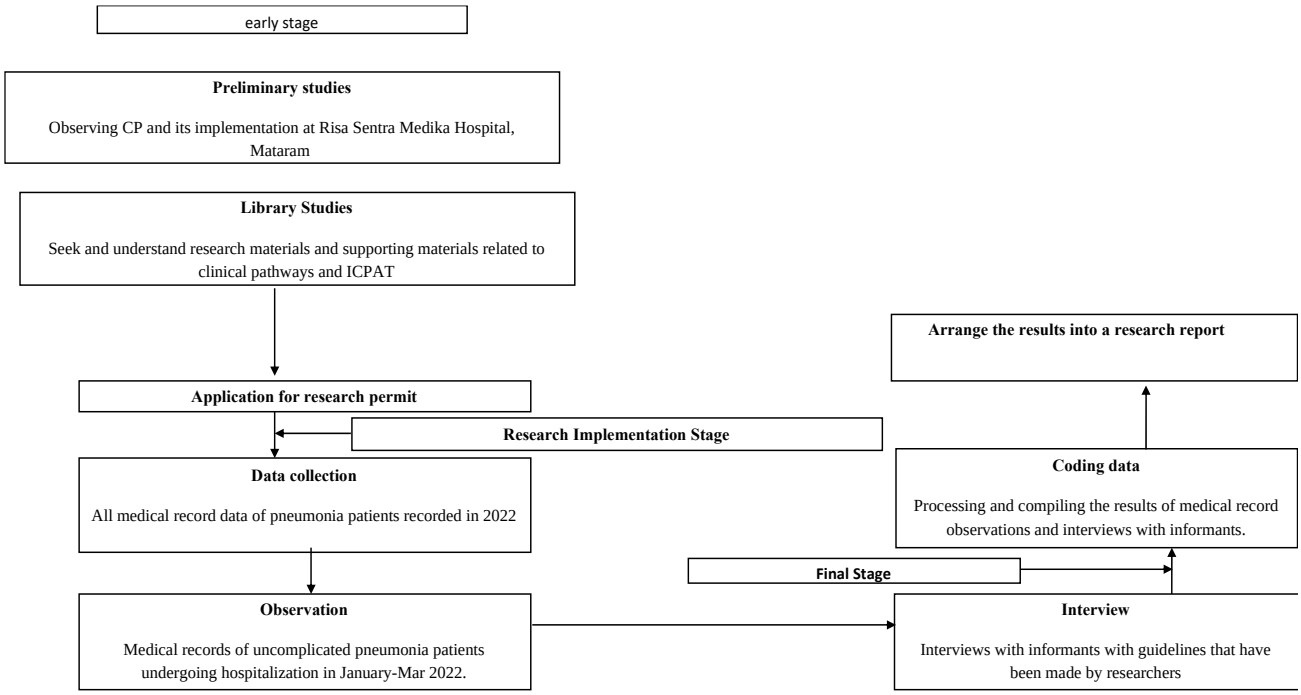

Figure 1. Flow Of research

Table 1. Number of Treatment Days, BOR, and LOS

Month	Number Of Visits			Total Legth of Treated	Number Treatment Days	BOR	LOS
	M	F	Total				
January 2022	79	69	148	664	649	91.02	5.27
February 2022	68	67	135	687	580	86.96	6.13
March 2022	75	78	153	751	656	92.01	5.52

Table 2. The level of severity of patient care in the internal medicine inpatient ward

No	Category	Average of No. Patient	Maintenance Hours/day	Number Treatment Hours/day
1	Mild	4	2	8
2	Moderate	15	3.08	46.20
3	Severe	5	4.15	20.75
	Sum			74.95

According to the Ministry of Health (2002) the need for nurses in the nurse's room uses the following formula:

$$Energy\ requirement = \frac{Number\ of\ maintenance\ hours\ in\ the\ room/day}{Nurse's effective\ hours}$$

$$= \frac{74.95}{7}$$

$$= 10.70$$

For the calculation of the number of workers, it is necessary to add a correction factor, namely adding Loss Day nurses and non-nursing assignments. with a record of 52 days weekends a year, 18 days of national holidays and 12 days of leave a year.

$$Loss\ Day = \frac{Number\ of\ days\ mg\ in\ 1\ year + leave + days\ off\ x\ number\ of\ available\ nurses}{Number\ of\ effective\ working\ days}$$

$$= \frac{(52+12+18)x10.70}{365-(52+12+18)}$$

$$= \frac{877.4}{283}$$

$$= 3.10$$

$$Non\ Nursing\ Duties = (Energy\ Requirement + Loss\ Day)\ x\ 25\%$$

$$= (10.70 + 3.10)x25\%$$

$$= 4.45$$

Then the power required = 10.70 + 3.10 + 4.45 = 19.25 people. So the required manpower is: 19 people, so it can be concluded that the number of workers needed is 3 people.

On the assessment of Demention 1 (Clinical Pathway Form) , Based on the results of observations on the clinical pathway sheet, it was found that the service outline of the pneumonia clinical pathway was known that the percentage of yes answers was 50% content, and yes answers were 50% quality. This is caused by CP has no starting point, ICP does not describe the continuity of service/ therapy for 24 hours, CP has not been used optimally so staff need to be refreshed again using this CP, CP cannot record specifically the services needed by patients because the CP format is only in the form of a checklist.

In the dimension 6 (hospital management role), which has 3 questions in the content section and 12 questions in the quality section, the percentage results for the content section are 100% and the quality section is 58%. This is due to the absence of evidence that CP is integrated into other initiatives owned by the hospital, no RS guidelines for CP documentation, no variation reporting system in CP reflects hospital policy in managing variations in clinical services, there is not enough time allocation to develop CP, no comprehensive training to develop and use CP and CP socialization is uneven.

In assessing the process aspect, in dimension 2 (documentation process) which has 23 questions in the content section and 2 questions, in conducting research using the ICPAT (Integrated Clinical Pathways Appraisal Tools) quality section. It is known that the percentage of yes answers to content is 30.43% and yes answers to quality are 25%.

The content documentation section and the quality of the presentation do not reach 100%, even the figure is below 50%. There is no explanation of the circumstances under which the patient cannot use this CP, there is no mechanism to identify that the patient is actually entering another CP, there are no page numbers on each page, there is no total number of pages on each page, etc. Dimension 3 (Clinical Pathway Development Process), In conducting research using ICPAT (Integrated Clinical Pathways Appraisal Tools) in three dimensions which has 12 questions in the content section and 15 questions in the quality section. It is known that the percentage of yes answers to content is 61.54% and yes answers to quality are 41.18%. variations/exceptions were not audited during the trial, outcomes/objectives were not audited during the trial, no CP usage audited during the trial, no feedback on the results of the audited CP use during the trial, no discussion of the contents of CP was conducted comprehensively, educational training and staff competency are not considered as part of the content of the CP. Dimension 4 (Clinical Pathway Implementation Process), the percentage of yes answers to content is 60% and yes answers to quality are 100%.

The content section gets 60% results because there is an allocation of resources to

carry out training on the use of clinical pathways. Dimension 5 (Maintenance Process of clinical pathway), the percentage of yes answers to content is 25% and yes answers to quality are 38.46%. In terms of content, this is because there are no individual staff who are responsible for maintaining the clinical pathway. The quality section gets a percentage of 38.46%, this is because the variation code cannot be used and checked as a form of use and consistency of its application.

In the assessment of the output aspect, compliance with the use of CP, 0 (0%) adherents used the clinical pathway, meaning that no one complied in using the clinical pathway, out of a total sample of 135 medical records, this was due to not attaching documents, and not Caring for patients according to CP.

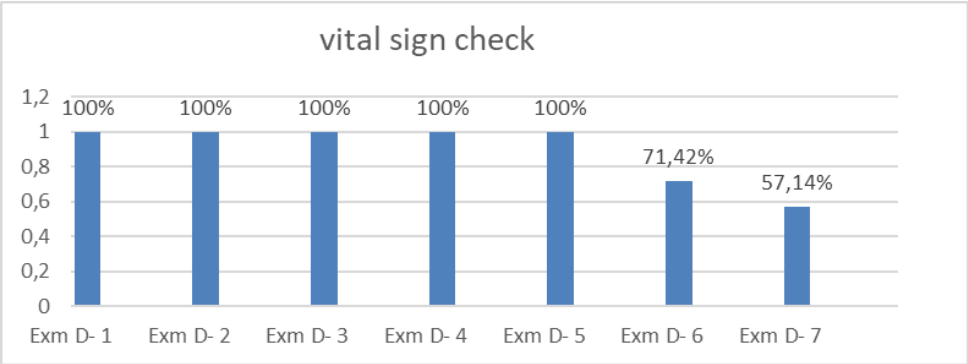

Figure 2. Compliance with vital sign cheecks

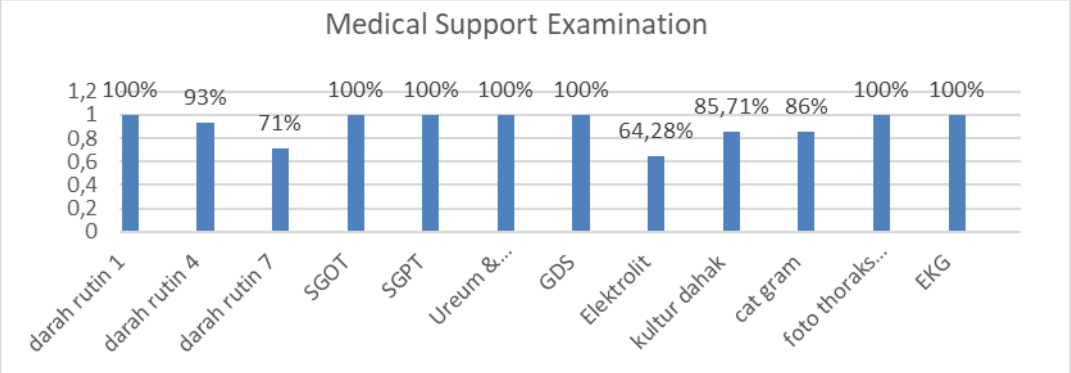

Figure 3. Compliance with vital sign

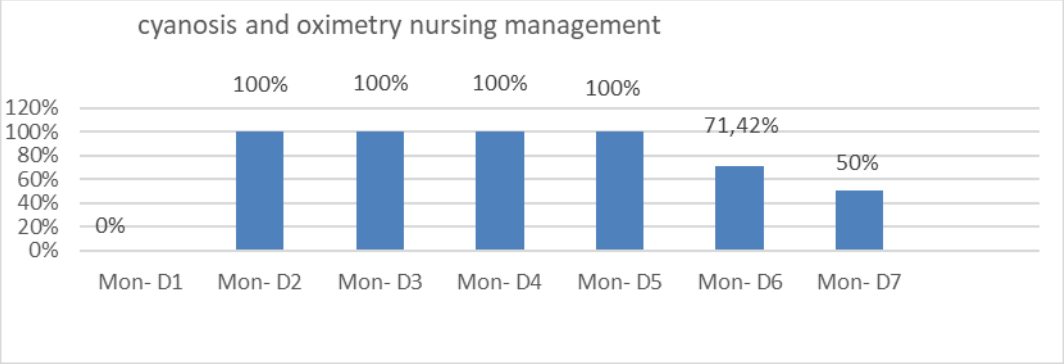

Figure 4. Monitoring for cyanosis and oximetrys

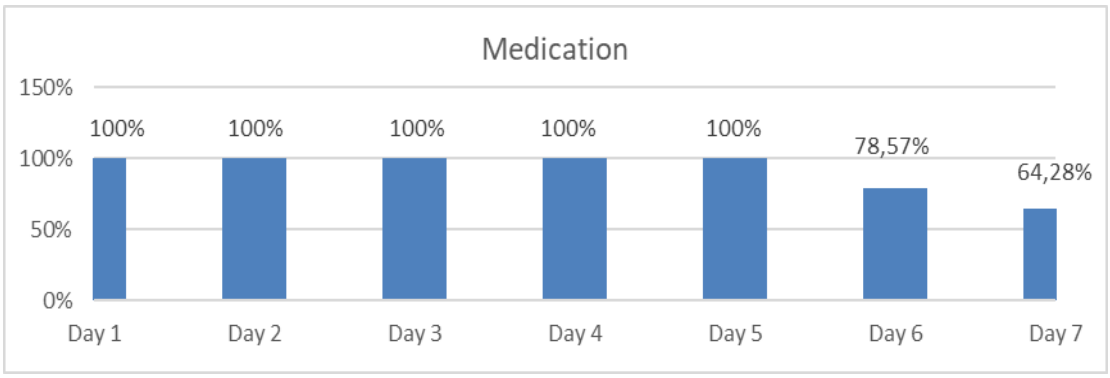

Figure 6. Daily medication

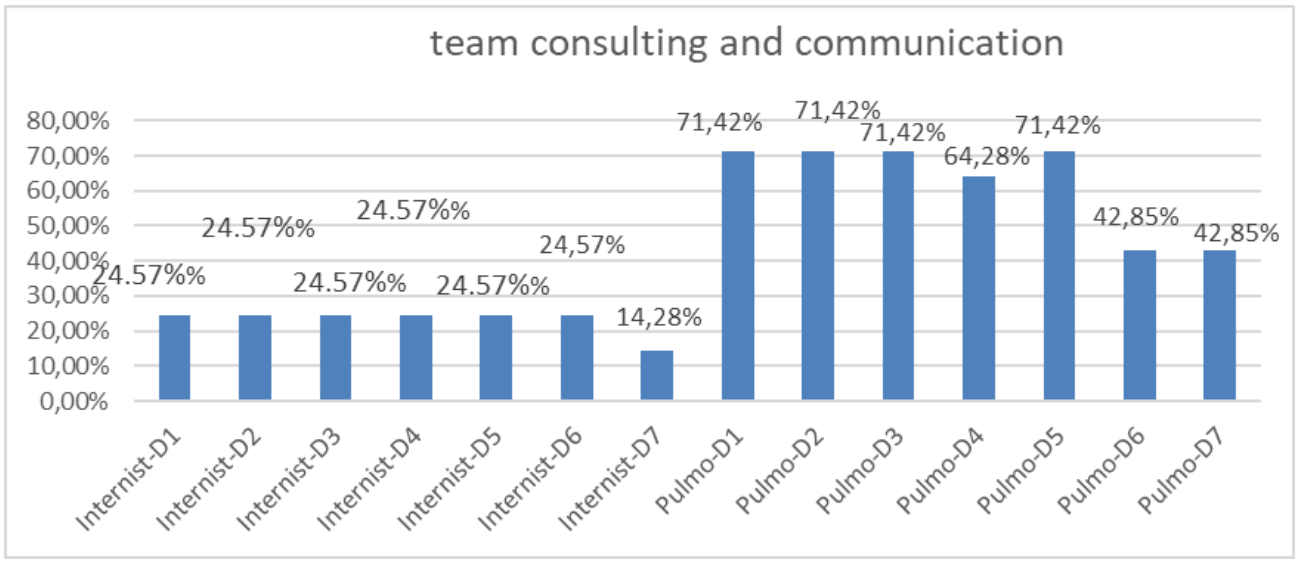

Figure 7. daily monitoring of the doctor in charge

DISCUSSION

From the results of research data analysis and discussion, it can be concluded that on the input aspect, according to ICPAT assessment standards, the form of the clinical pathway form in pneumonia cases at Risa Sentra Medika Hospital, Mataram which is considered to be true is a clinical pathway, but does not meet good criteria, especially in the quality section, many resources do not understand the contents of the clinical pathway. The hospital plays a role in the implementation of the clinical pathway properly and in evaluating the quality of the hospital it is in the medium category in the pneumonia clinical pathway. In terms of the number of equipment in the internal medicine inpatient ward, according to the needs of both quality and quantity. As well as the current workforce needs, there is still a shortage of 3 nurses.

From the process aspect, the clinical pathway documentation in the internal medicine inpatient ward is not included in the medical record so that it only fulfills less than 50% of the ICPAT aspect, then related to the development of clinical pathways involving the clinical pathway team, medical committee, and KSM, but the score is still not optimal around 60%. As for the implementation of the clinical pathway, the score has reached 60%, but there are still a number of obstacles such as Evaluation and socialization of CP are not programmed, CP is not a single documentation, socialization and knowledge are not evenly distributed, Ownership is lacking, for the development of clinical pathways the

process is still very low below 25%, this happens because clinical pathway evaluations are not carried out regularly and no person in charge is selected.

From the aspect of output, compliance in using clinical pathways in pneumonia cases is considered disobedient, because it turns out that there have been no officers who have used clinical pathways for pneumonia so far, for compliance with vital sign examinations it has reached 100%, compliance with examinations for respiratory distress has also reached 100%. Supporting examinations on clinical pathways pneumonia have reached 62.48%, for adherence to action the percentage is still lacking at 50%, from adherence to aspects of nursing management it is still poor, still below 50%. From the aspect of medication treatment, giving antibiotics, and mucolytics, the percentage is quite good, above 60%. The aspect of providing nutrition reaches 60%. For the evaluation of aspects of psychosocial counseling and discharge planning is good enough, the value is above 60%.

AUTHOR CONTRIBUTION

Findy Wijaya Nurdin, Purwadhi, Ign Wiseto Agung is the main researcher who select the topic, search for and collect research data.

CONFLICT OF INTEREST

There is no conflict of interest in this study

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