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Research Paper

Analysis of Pharmacist's Integrated Patients Progress Notes (IPPN) on Hospitalized Patients with Lower Respiratory Infection

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ABSTRACT: *Upper respiratory tract infections are generally caused by viruses, while lower respiratory tract infections can be caused by bacteria, viruses, and mycoplasma which sometimes require patients to be hospitalized. This study aims to study the completeness and accuracy of writing Integrated Patients Progress Notes(IPPN) with the Subjective Objective Assessment Plan (SOAP) method made by hospital pharmacists. This study is a retrospective study, with a purposive sampling technique and results are analyzed descriptively. Data were taken from the medical records of patients with lower respiratory tract infections who were hospitalized in the Very Important People (VIP) room of Hospital X in Kampar Regency, Riau Province, Indonesia from 2019 to May 2020. 20 IPPNs were obtained, but only 16 met the inclusion criteria. The results showed that there were 3 (18.75%) IPPN data that were filled in completely, and the accuracy of writing that was declared correct was 2 (12.5%). It is hoped that pharmacists can improve their knowledge of writing SOAP in IPPN better.*

KEYWORDS: *IPPN, SOAP, Lower Respiratory infection, Pharmacist*

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I. INTRODUCTION

Acute respiratory infection (ARI) is an acute infection that attacks one part of the airway, from the nose to the alveolar including surrounding tissues, such as the sinuses, middle ear cavity, and pleura. This disease begins with an increase in body temperature accompanied by one or more symptoms of sore throat or pain when swallowing, runny nose, dry cough, or cough with phlegm [1].ARI can be caused by various causes such as bacteria, viruses, mycoplasma, fungi, and others. Upper acute respiratory infections are generally caused by viruses, while lower ARI can be caused by bacteria, viruses, and mycoplasma. Generally, lower ARI is caused by bacteria, this condition has severe clinical manifestations that cause several problems in handling it[2].In Indonesia, ARI is the most common disease suffered by people in their daily lives, including infectious diseases in the ear, nose, and throat (ENT). In adults, the complaints caused more interference in the implementation of daily activities to reduce productivity [3].The process of inpatient care that involves many health workers, various types of care, and dynamic patient development must be facilitated by efficient care processes, effective use of human resources, and the development of improved patient conditions. So to achieve all of this, hospital leaders apply various means and techniques to better integrate patient care.

Hospitals as a means of health care must serve patients quickly and precisely and are equipped with the following Complete facilities, facilities, and equipment. To achieve this, hospital management must be carried out appropriately and correctly[4]. Good hospital management is an important thing to improve quality and safety, patient care, cost control, patient-focused services, integrated patient care, service continuity, patient compliance, and patient satisfaction [5]. Hospitals must provide coordination and measurement of integration activities in the hospital [6]. So that pharmacists also play an important role in the implementation of these

activities in the hospital.Clinical pharmacists practice independently and also collaborate with other healthcare professionals so that clinical pharmacists also function as cooperative members of the health team. Clinical pharmacists should contribute to the improvement of patients' health and quality of life [7]. Pharmacists who perform pharmaceutical services to patients must create patient-specific records that chronologically describe the care provided to patients. Documentation for a service must be consistent and standardized in its recording. Patient care services require various types of documentation including internal pharmacy records, billing, patient information, outcome evaluation, and communication with other members of the care team [8].

Pharmacists write documentation of all actions taken in the practice of visite as professional accountability, educational and research materials, and improvement of the quality of professional practice. Documentation is something that must be done in every pharmaceutical service activity. Documentation includes information on drug use, changes in therapy, and records of drug use reviews (problems related to drug use, recommendations, results of discussions with the attending physician, implementation, and therapy results [9]. Health professional continuity coordinates health care actions among all patient service providers supported by documentation. The quality of documentation can affect the quality of care provided to patients[8]. Medical records aim to facilitate, and reflect integration and become a place of communication and coordination between health workers during patient care. Each health worker such as doctors, nurses, and pharmacists will record the results of observations, treatment, and the results of discussions with the patient's care team in the patient's progress notes in the form of SOAP on the form in the medical record with the hope that writing can improve communication between health workers[10].

Monitoring the effectiveness and safety of drug use in the form of patient complaints, clinical manifestations, and supporting examination results can be done.Analysis of drug use in the form of patient complaints, clinical manifestations, and supporting examination results can be done using the SOAP method [9]. Writing patient progress notes is divided into four parts, namely SOAP. Letter S, which is subjective, describes the patient's health condition at the time of examination and complaints felt by the patient. Objective letter O explains the results of measurements that can be tested. Letter A, namely assessment, explains the patient's problem from the pharmacist's point of view. The letter P, namely planning, explains the next steps that will be given by health workers to solve the patient's problem [11].

Incomplete and incorrect recording of documents will affect the performance of health workers in decision-making. Improvement of clinical pharmacy performance will improve medication therapy management, disease state management, health knowledge, and drug and medication information integrated with coordination among nursing staff [12]. As the use of SOAP notes is widespread, this format can assist pharmacists in communicating with other healthcare providers and third parties. Pharmacists should assess documentation requirements. Standardized documents should include information that meets patient requirements.[8]. SOAP should be written in continuity with the previous day's notes and performed daily.

II. RESEARCH METHODS

A retrospective study, with a purposive sampling technique whose results are analyzed descriptively, by analyzing the completeness and accuracy of filling out assessments and plans in the Integrated Patient Progress Note (IPPN) in the form of Subjective, Objective, Assessment and Plan (SOAP) written by pharmacists in the medical records of patients with lower respiratory tract infections who were hospitalized in the VIP room of Hospital X - Kampar Regency, Riau Province, Indonesia, 2019 - May 2020.

III. RESULTS AND DISCUSSION

Result

In Based on the results of the study, 20 IPPN patients were obtained, but 16 patients met the inclusion criteria because 4 IPPN SOAP were incomplete.

Table1. Completeness of Writing Integrated Patient Progress Notes (IPPN)

IPPN Completeness	**Number of IPPN n = 16**		**Percentage of completeness (%)**
	Complete	Incomplete	
Visit Date	16	0	100
Visit Time	15	1	93,75
Pharmacist Name	12	4	75
Pharmacist Degree	5	11	31,25
Pharmacist Signature	16	0	100
***Subjective* Data (S)**	16	0	100

***Objective* Data (O)**	16	0	100
***Assessment* Data (A)**	12	4	75
Data *Plan* (P)	16	0	100
Number of Complete IPPNs	3	13	18,75

Based on table 1, the number of IPPNs that are filled in by pharmacists is 3 data (18.75%) IPPN, which is incomplete as much as 13 data (81.25%) IPPN.The date, signature, *subjective, objective,* and *plan* are complete because the pharmacist has filled in these sections, while the time, name, title, and *assessment* are incomplete because the pharmacist did not fill in these sections.

Table 2: Accuracy of Writing Integrated Patient Progress Notes (IPPN)

IPPN Accuracy	**Number of IPPN n = 16**		**Percentage accuracy (%)**
	Exactly	Inappropriate	
Subjective Data (S)	16	0	100
Objective Data (O)	16	0	100
Assessment Data (A)	4	8	25
Data Plan (P)	3	13	18,75
Number of Appropriate IPPNs	2	14	12,5

Based on table 2, the accuracy of *subjective* data is 100%, *objective* data is 100%, *assessment* data is 25%, *and plan* data is 18.75%, with the total amount of correct IPPN data being 12.5%.

Discussion

In healthcare, the most commonly used structured format is Subjective, Objective, Assessment, and Plan (SOAP) [8]. The more structured format of SOAP notes makes it easier for health workers to follow up and monitor patients. SOAP notes are also needed to demonstrate the continuity of care provided.By patient care practitioners. SOAP note-taking has been used routinely in the form of written documentation and is now slowly being integrated as a standard.

Subjective data contains complaints submitted by patients about how they feel about their health conditions and the care they follow[13]. It also contains notes about symptoms, information, and answers to questions given by health workers. This description informs the doctor about the severity of the patient's condition, the degree of dysfunction, the progression of the disease, and the level of pain felt by the patient[8].
Of the 16 subjective data, the pharmacist has filled it in correctly (100%) because the pharmacist fills in the subjective section by the IPPN filling standards contained in the hospital SOP. This is comparable to the results of research by J.P Adam and friends at a Canadian university teaching hospital in 2019 which reported that 98.8% of this medication reconciliation data had been filled in by pharmacists.

Objective data contains the results of observable or testable measurements related to the patient's complaints. For example, vital signs, pulse, temperature, skin color, edema, and diagnostic testing (14). Of the 16 objective data, pharmacists have filled them appropriately (100%), because pharmacists fill in the objective section according to the diagnostic indicators related to pneumonia.

Assessment data contains a list of prioritized condition assessments. This list contains patient problems from the point of view of a pharmacist, namely drug problems in patients [11]. Drug-related problems include:

1. There are indications but not treated.
2. Administration of drugs without indication.
3. Improper drug selection.
4. The dosage is too low.
5. The dose is too high.
6. Unintended drug reactions.
7. Drug interactions.
8. The patient did not use the medicine for some reason.

Of the 16 existing assessment data, only 12 assessment data could be analyzed. 4 previous assessment data were declared incomplete, namely in the patient (P), P1, P6, P7, and P8, because the pharmacist did not fill

in the assessment data on that patient. Of the remaining 12 assessment data, 4 (33.3%) assessment data were correct because the pharmacist wrote the drug-related problems correctly. As in patients P4, P5, P10, and P13.While 8 (66.7%) other assessment data were declared inappropriate, namely in patients (P), P2, P3, P9, P11, P12, P14, P15, and P16, because pharmacists did not write drug-related problems in the assessment data. In Inpatient P2, the pharmacist wrote in the assessment data "difficulty swallowing", which was declared inappropriate because the statement was not a drug-related problem. In Inpatient P9, the pharmacist wrote "shortness of breath has decreased", stated inappropriately because he did not write down drug-related problems. Inpatient P11 the pharmacist wrote "Complaints of heartburn have decreased" also stated inappropriately because it did not include drug-related problems, the pharmacist should have written that there were no drug interactions. In Inpatient P12, the pharmacist wrote "clinical improvement", which was stated to be inappropriate because they did not write down drug-related problems, the pharmacist should have written no drug interactions. For Inpatient P14 the pharmacist wrote "no significant pharmacologic reactions", stated inappropriately because the pharmacist should have written there was an indication not treated, namely high blood glucose. In Inpatient P15 the pharmacist stated "The problem has been treated and there is no significant pharmacological reaction", this was stated inappropriately because there are drug-related problems, namely there are indications but not treated such as high blood sugar levels and high blood pressure. In patient P16 the pharmacist wrote "ceftriaxone injection", which was inappropriate because there was an indication but was not treated such as high blood pressure, and the administration of drugs without indications such as tranexamic acid.The results of this data plan (33.3%) are not in line with those reported in the results of research by J.P Adam and friends at the Canadian University Teaching Hospital in 2019 which stated that 98.9% of pharmacotherapy analysis had been filled in correctly by pharmacists [15].

Contains action steps for planning patient care by health professionals. The plan consists of suggested actions to improve or resolve the problems identified in the assessment.Additional diagnostics, changes in pharmacotherapy, lifestyle recommendations, standards of care, special directions, referrals, monitoring, and time for follow-up. This leads to *evidence-based medicine* (EBM) based treatment referrals, pharmacotherapy considerations for patients, and lifestyle change measures [11]. It also provides evidence for care planning and delivery. The assessment also includes early identification of patient needs for planning and providing support and services so that patients are well on time [16].

If there is more than one Drugs Related Problem (DRP), the plan should be numbered consecutively downwards. The *plan* contains the following:

1 Recommended drug therapy for each DRP complete with dosage.
2. Drug Therapy Monitoring Plan.
3. Counseling Plan.
4. In conveying recommendations, you should not use command sentences but suggestions (Ministry of Health of the Republic of Indonesia).

Of the 16 *plan* data that have been analyzed, 2 (12.5%) plan data were obtained whose writing was correct, namely in patients P1 and P10, because the pharmacist had written the plan data correctly. Meanwhile, 14 other *plan* data were declared inappropriate, namely in patients P2, P3, P4, P5, P6, P7, P8, P9, P11, P12, P13, P14, P15, P16.Inpatient P2, the pharmacist wrote "1. give oral medication in the form of pulverize, and should be advised to review the use of cetirizine because there is no indication. Inpatient P4, the pharmacist wrote "1. Evaluation of ceftriaxone injection 48-72 hours during administration, 2. Suggested to the doctor to add blood enhancing drugs. In Inpatient P6, the pharmacist wrote "1. Proposed for consideration of giving an antibiotic injection to oral by Doctor. Inpatient P7, the pharmacist should have suggested giving antibiotic therapy to the patient and reviewing the use of ranitidine therapy. Inpatient P8, the pharmacist should have suggested reviewing the use of paracetamol because there was no indication. Inpatient P9, the pharmacist should have suggested monitoring drug therapy. Inpatient P11, the pharmacist should have suggested monitoring drug therapy only. In Inpatient P12, the pharmacist wrote "Therapy continued by Doctor", the pharmacist should have suggested monitoring drug therapy. In Inpatient P13, the pharmacist wrote "regular Blood glucose level, monitoring, and antibiotic monitoring, the pharmacist should have suggested monitoring drug therapy. Inpatient P14, the pharmacist should have suggested the addition of therapy to reduce blood glucose levels. Inpatient P15, the pharmacist wrote "therapy continued by Doctor and regular monitoring of blood glucose levels" The pharmacist should have suggested the addition of Diabetes Mellitus therapy and antihypertensive therapy. Inpatient P16, the pharmacist wrote "Evaluation of antibiotic ceftriaxone 48-72 hours during administration and regular monitoring of Blood glucose level, the pharmacist should suggest a plan to add antihypertensive and Diabetes Mellitus therapy.

The results of the plan data (12.5%) are also not in line with those reported in the results of research by J.P Adam and friends at the Canadian University Teaching Hospital in 2019 which stated that 87.0% of intervention plans were correctly filled in by pharmacists. [15]

IV. CONCLUSION

Based on the results of the research that has been carried out, it can be concluded that Completeness of writing Integrated Patient Progress Notes (IPPN) by pharmacists at X Hospital in Kampar Regency, it was found that 3 (18.75%) IPPN data were filled in completely. The accuracy of writing Integrated Patient Progress Notes (IPPN), obtained which appropriate is 2 (12.5%).

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