Evaluation Of The Cost Of Pulmonary Tb And Pneumonia Therapy Based On Ina-Cbgs

Jessica Lise Hanna[1], Johannes Bastira Ginting[2*], Sri Lestari Nasution[3]

[1,2,3] Master of Public Health Study Program, Faculty of Medicine, Dentistry and Health Sciences, Prima University of Indonesia, Medan, Indonesia.
[*] Corresponding Author:
Email: johannesbestiraginting@unprimdn.ac.id

Abstract.
Tuberculosis as a disease caused by Mycobacterium tuberculosis. Tuberculosis can attack the lungs and can attack all parts of the body. Just as Pneumonia is a respiratory infection that most often causes death in infants and toddlers. The purpose of this study was to evaluate the cost of Pulmonary TB and Pneumonia therapy for the period July 2020 to July 2021 Based on INA-CBGs at RSU Royal Prima Medan. This type of research is descriptive with a qualitative approach. The sample in this study were informants consisting of officers in the INA-CBGs tariff coding section, pulmonary specialists, administrative management staff/staff and patients who were treating pulmonary tuberculosis and pneumonia. The determination of informants was carried out by purposive sampling. Analysis of research data using source triangulation, method triangulation and time triangulation. The results of the study show that the direct costs of patients for pulmonary TB therapy are based on the INA-CBGs rates, these costs are distributed into several costs such as registration fees, consultation fees, laboratory fees, drug costs and X-ray fees. Indirect costs incurred for pulmonary TB therapy patients and indirect costs incurred for pneumonia therapy patients who undergo therapy at RSU Royal Prima Medan. This fee is the sum of transportation costs, food costs, losses due to leave, patient care costs, and drug costs that are not available at the hospital. The duration of therapy for pulmonary TB patients at RSU Royal Prima Medan was in the majority > 5 days in 23 (65.7%) patients, and 1-5 days in 12 (34.3%) patients. The majority of Pneumonia patients at RSU Royal Prima Medan spent 1-5 days in 24 (68.6%) patients, and > 5 days in 11 (31.4%) patients.

Keywords: *Pulmonary TB, Pneumonia, INA-CBGS, Direct Patient Costs and Indirect Patient Costs*.

I. INTRODUCTION

Tuberculosis is a disease caused by Mycobacterium tuberculosis. Tuberculosis can attack the lungs and can attack all parts of the body [1]. This disease is an infectious disease that often causes death, which is around 140,000 deaths in Indonesia every year [2]. The World Health Organization (WHO) has declared pulmonary TB as one of the world's emergencies (global emergency), this is because the problem of pulmonary TB is grouped into high burden countries (BCC). Indonesia is included in the HBC group which ranks fourth after China, India and South Africa.The results of the 2018 research by the Ministry of Health of the Republic of Indonesia stated that the total prevalence of clinical pulmonary tuberculosis spread throughout Indonesia was 1.0%. several provinces which have prevalence rates above the national rate, namely: Aceh Province, DKI Jakarta, Yogyakarta Special Region, West Sumatra, Riau Islands, West Nusa Tenggara, Nusa Tenggara, South Sulawesi, Central Sulawesi and eastern Indonesia [4]. The treatment success rate for all TB cases (success rate) is 89% of the target of 85%. With a success rate of more than 90%, it illustrates that more and more people suffering from TB are completing treatment completely.The majority of TB sufferers experience extreme pain when coughing, and also experience shortness of breath. The body's coping mechanism in dealing with this is by releasing neuromodulators that can inhibit the transmission of pain impulses, one of which is by stimulating beta-endorphins. Endorphins play a role in reducing the sensation of pain by blocking the process of releasing substance P from sensory neurons so that the process of transmitting pain impulses in the spinal cord becomes obstructed and the sensation of pain decreases.

High beta-endorphins also have a direct psychological impact, namely helping to give a feeling of relaxation, reducing tension, increasing feelings of pleasure, making a person more comfortable, and expediting the delivery of oxygen to muscles is a productive age [5].Just like pneumonia, pneumonia is a respiratory tract infection (ARI) that most often causes death in infants and toddlers. This disease is an infectious disease characterized by a cold cough accompanied by shortness of breath or increased frequency

of breathing. This disease can attack all ages, but it is more common in toddlers [6].Pneumonia is an inflammatory disease of the lung parenchyma, which occurs or is caused by microorganisms (bacteria, viruses, fungi and parasites), chemicals, physical exposure (radiation temperature), where the functional unit of the lung is filled with inflammatory fluid with or without infiltration from inflammatory cells into in the interstitium [7]. This disease can also affect anyone and is also one of the diseases that cause the most deaths in humans.Pneumonia is the single largest cause of infectious death in children worldwide. Pneumonia killed 808,694 children under the age of 5 in 2017, accounting for 15% of all deaths of children under the age of five. Pneumonia affects children and families everywhere, but is most common in South Asia and sub-Saharan Africa. Children can be protected from pneumonia, prevented by simple interventions such as being given a vaccine, and treated with low-cost, low-tech medications and treatments [8].According to WHO pneumonia kills more than 800,000 children under five worldwide, or 39 children per second [3]. Half of the under-five deaths due to pneumonia are in five countries including Nigeria (162,000), India (127,000), Pakistan (58,000), Democratic Republic of Congo (40,000) and Ethiopia (32,000). Pneumonia is also the biggest cause of under-five deaths in Indonesia. In 2018, it is estimated that around 19,000 children died from pneumonia.

Global estimates show that in one hour there are 71 children in Indonesia who contract pneumonia [8]. Based on the 2018 ISPA subdirectory routine report data, it was found that the incidence (per 1000 children under five) in Indonesia was 20.06%, almost the same as the data for 2017, which was 20.56%. One of the efforts made to control this disease is to increase the detection of pneumonia in toddlers. The national estimate for pneumonia cases is 3.55%, but the estimated number of pneumonia cases in each province uses different numbers according to predetermined numbers [9].One of the efforts to reduce the prevalence of pulmonary TB and pneumonia is to carry out regular and routine therapy. The length of time for therapy in patients with pulmonary tuberculosis and pneumonia is 6 months to 9 months or even longer depending on the patient's condition [10]. The level of severity experienced by patients with pulmonary tuberculosis and pneumonia as well as the complex course of therapy can affect the costs that will be incurred by the patient. The level of patient compliance during therapy must be maintained so as not to cause even bigger problems such as multiple drug resistant tuberculosis (MDR-TB), namely TB that is already resistant to the 2 main first-line drug components namely rifampicin and isoniazid [2].Regular medical therapy in patients with pulmonary TB and pneumonia can recover completely, if the patient adheres to the rules of medical therapy. The important thing for TB sufferers is not to stop taking medication and therapy because if the patient stops treatment, the TB germs will start to multiply again so that the patient must repeat intensive treatment for the first 2 months.

To achieve treatment success, it is not solely the responsibility of the patient, but it must be seen how other factors influence the patient's behavior in completing and complying with the treatment. There are several factors related to medication adherence, namely individual patient factors, social support, support from health workers, and family support.For example, family support has a very clear effect on the success of therapy in patients with pulmonary TB and pneumonia. According to research conducted, the results of his research state that there is an effect of family support on adherence to taking medication in patients with pulmonary TB [11]. With regular therapy and taking medication carried out by patients undergoing pulmonary TB and pneumonia therapy, it can directly reduce the burden of costs that will later be borne by the patient and also the patient's family.So far, many patients who have been diagnosed with pulmonary TB and pneumonia do not undertake treatment because the cost of therapy for treatment of patients with pulmonary TB and pneumonia is very expensive, and requires a long treatment time. However, if treatment or therapy for pneumonia is carried out in childhood referring to WHO guidelines, the costs incurred can be reduced by up to 39.5%, this is according to the results of research conducted [12].The costs that must be incurred during the treatment of pulmonary TB and pneumonia include direct costs and also indirect costs that will later have to be incurred by the patient.

The direct costs included in the treatment of pulmonary TB and pneumonia are registration fees, consultation fees, laboratory costs, drug costs, and x-ray costs, while the indirect costs that must be incurred by patients who undergo pulmonary TB and pneumonia treatment are costs that arise but are not related to

the therapy carried out by the patient, namely non-working costs, transport costs, food and drink costs as well as delivery costs and other costs allocated to patients who are undergoing treatment for pulmonary TB and pneumonia [2].On October 26, 2016 the Government of Indonesia implemented the Indonesian Case Base Groups (INA-CBGs) System. This system is an application for submitting claims to hospitals, halls and clinics that serve National Health Insurance (JKN) participants [13]. This system is related to the tariffs set by the government based on Minister of Health Regulation Number 69 of 2013 concerning standard health service tariffs.Thus the Indonesian Case Base Groups (INA-CBGs) rate is the amount of claim payments by the Social Health Insurance Administration (BPJS) for Health to Advanced Level Referral Health Facilities (FKRTL) for service packages based on disease diagnosis and procedure groupings. The Health Social Security Management Agency, or better known as BPJS Health, was rolled out by the Government since January 1, 2014, as a JKN program, according to the BPJS vision, it is expected that on January 1, 2019 all Indonesian people must become BPJS Health participants [14].

The INA-CBGs Guidelines in the Implementation of JKN serve as a reference for BPJS Kesehatan advanced level health facilities, and other related parties regarding the INA-CBGs payment method in administering Health Insurance. JKN itself is a health service program from the government in the form of BPJS Kesehatan. Based on the technical instructions for the INA-CBGs system, the method of payment at the hospital determined by BPJS is the casemix INA-CBGs prospective method. The casemix system is a grouping of diagnoses and procedures with reference to similar/same clinical features and uses similar/same resources/treatment costs [15].With this payment method, the tariff amount has been determined before health services are provided to patients. Meanwhile, RSU Panti Baktiningsih determines the amount of rates that are billed to patients after services are provided to patients. From the payment procedure using the INA-CBGs system, the cost of treating pulmonary TB is one of the highest costs when compared to the costs of treating other diseases.

II. METHODS

This research is descriptive research with a qualitative approach. The qualitative descriptive method is a research method based on the philosophy of postpositivism used to research on natural object conditions, where the researcher is the key instrument. Data collection techniques are carried out in a triangulation (combined) manner. than generalization [16].Qualitative descriptive research aims to describe, describe, explain, explain and answer in more detail the problems to be studied by studying as much as possible an individual, a group or an event. In qualitative research humans are research instruments and the results of the writing are in the form of words or statements that are in accordance with the actual situation [16].This research was conducted at RSU Royal Prima located on Jl. Ayahanda No. 68A, Sei Putih Tengah, Kec. Medan Petisah, Medan City, North Sumatra. This research was conducted from the time the author conducted a preliminary survey in July 2021 to October 2021.The population is a generalized area consisting of objects or subjects that have certain qualities and characteristics determined by the researcher to be studied and then drawn conclusions [16].

The population used in this study were officers in the INA-CBGs tariff coding section, pulmonary specialists, administrative management officers/staff and patients treating pulmonary TB and pneumonia.The sample is part of the actual object in a study with the use of knowing which sample the characteristics contained in the limited sample can truly describe the actual situation in the entire population [16]. The sample used in this study were informants consisting of officers in the INA-CBGs tariff coding section, pulmonary specialists, administrative management staff/staff and patients who were treating pulmonary tuberculosis and pneumonia. Determination of informants was carried out by purposive sampling, namely the sources of informants were selected based on certain considerations and objectives such as informants knowing more broadly and in-depth issues related to the object of research. And informants can be trusted and competent as a source of data related to the object of research.

Research Variables and Operational Definitions

Tuberculosis is a disease caused by Mycobacterium tuberculosis. Tuberculosis can attack the lungs and can attack all parts of the body [1]. Tuberculosis is a direct infectious disease caused by the bacterium

Mycobacterium tuberculosis. Most TB germs attack the lungs, but can also affect other organs [17]. Tuberculosis is a chronic and recurrent infectious disease usually affecting the lungs caused by Mycobacterium tuberculosis [18].Pneumonia is a respiratory tract infection (ARI) that most often causes death in infants and toddlers. This disease is an infectious disease characterized by a cold cough accompanied by shortness of breath or increased frequency of breathing. This disease can attack all ages, but it is more common in toddlers [6].Cost analysis is needed to interpret cost information generated through the accounting system so that it can be used as a basis for consideration in making decisions, planning and controlling activities.

The results of the cost analysis are strongly influenced by the level of understanding of the concepts and methods used in determining costs.In this study the data collection methods used were interviews, documentation, and archival records. The type of data in this study consisted of primary data and secondary data. Interviews will be conducted with cashiers, specialist doctors, heads of medical records, and patients who are undergoing therapy at RSU Royal Prima Medan. This method is carried out by directly observing the therapy process carried out by patients at RSU Royal Prima, starting from the beginning of therapy to the end of therapy. It can be manual or computerized in the form of hospital charts, patient medical records, hospital organizational structures. Efforts made by researchers to obtain secondary data are by searching and collecting documents, journals, articles in the form of various statements and information related to the problem under study, such as through literature searches and references/notes from experts related to evaluating the cost of pulmonary TB therapy. and Pneumonia at RSU Royal Prima.

Data Analysis

The basic principle of qualitative analysis technique is to process and analyze collected data into meaningful data. Qualitative data analysis lies in three related processes, namely: describing phenomena, classifying them, and seeing how the concepts that emerge one with another [16]. In this study, the data obtained from the results of in-depth interviews will be analyzed, starting from the process of asking questions until there are answers that are considered understood and satisfactory to the researcher. Data reduction is a selection process, focusing attention on simplifying, abstracting and transforming data obtained from field notes. Presentation of data, is a set of structured information that provides the possibility of drawing conclusions and taking action. Conclusion and verification, the final conclusion depends on the size of the record collections in the field, coding, deviation and retrieval methods used, the skills of the researcher. In testing the accuracy of the data, qualitative research methods use credibility, transferability, dependability, auditability and confirmability tests. Credibility test in qualitative research is carried out in various ways, one of which is triangulation which is defined as checking data from various sources in various ways and at various times.

III. RESULT AND DISCUSSION

Research Result

Table 1. Patients' Pulmonary TB Cost Condition

Patients' Pulmonary TB Cost Condition		**N=35**	**%**	**AVG**
Gender	Male	26	74,3	
	Female	9	25,7	
Therapy Time	1-5 Days	12	34,3	
	> 5 Days	23	65,7	
Costs	Class I	Rp 6.144.000		
	Class II	Rp 5.266.200		
	Class III	Rp 4.388.500		
Indirect Costs	Transportation	Rp. 5.000 - 40.000		Rp.17.000
	Eat	Rp. 10.000 – 50.000		Rp.23.714
	Loss due to leave		-	
	Patient caretaker		-	
	Drugs that are not available in the hospital	Rp. 12.000 – 50.000		Rp.48.200

Table 2. Patients' Pneumonia TB Cost Condition

Patients' Pneumonia Cost Condition		N=35	%	AVG
Gender	Male	24	68,6	
	Female	11	31,4	
Therapy Time	1-5 Days	12	34,3	
	> 5 Days	23	65,7	
Costs	Class I	Rp 5.119.200		
	Class II	Rp 4.387.900		
	Class III	Rp 3.656.600		
Indirect Costs	Transportation	Rp. 5.000 - 45.000		Rp.20.142
	Eat	Rp. 10.000- 100.000		Rp.23.428
	Loss due to leave		-	
	Patient caretaker		-	
	Drugs that are not available in the hospital	Rp. 12.000 – 50.000		Rp.48.200

Research Interview Results

A. Interview Results of the BPJS Coding Section

Question 1. What is the difference between hospital rates and INA-CBGs rates?

Answer: *INA-CBGSs rates have been determined and have standards according to coding*

Question 2. What is the INA-CBGs tariff?

Answer: *INA-CBGs is an instrument for calculating payments to hospitals with a "package" system, based on the patient's illness. The meaning of Case Base Groups (CBG) itself is a method of paying for patient care based on relatively similar diagnoses or cases*.

Question 3. How much is the real tariff for Pulmonary TB and Pneumonia according to the standard INA-CBGs tariff?

Answer: *For pneumonia with class I BPJS patients the rate is IDR 5,119,200; class II the fare is IDR 4,387,900; and for class III the fee is Rp. 3,656,600, - while for pulmonary TB, patients with BPJS class I charge 6,144,000, -; class II the fare is Rp 5,266,200, - and class III the fare is 4,388,500, -*

Question 4. What are the factors that might differentiate the real rates for pulmonary TB and pneumonia according to the INA-CBGS standard rates?

Answer: *Factors that might differentiate the real rates for the treatment of pulmonary TB and pneumonia with the rates according to the standard INA-CBGs length of stay, patients treated together by specialist doctors, and the drugs used.*

Question 5. Does the duration of Pulmonary TB and Pneumonia therapy affect the determination of INA-CBGs rates?

Answer: *The duration of therapy for pulmonary TB and pneumonia does not affect the determination of the INA-CBGs rates*

Question 6. What is the capacity of the staff/employees in terms of quantity and quality in implementing the INA-CBGs package rates at RSU Royal Prima Medan?

Answer: *The ability of staff/employees in terms of quantity and quality in implementing the INA-CBGs package rates at RSU Royal Prima Medan is quite good in terms of quantity and quality*.

Question 7. How is the application of hospital fees aligned with the INA-CBGs and the obstacles encountered and the solutions?

Answer: *In aligning the INA-CBGs rates, the hospital makes a provision that the BPJS rate reference at RSU Royal Prima Medan is adjusted to the general rate so it is not difficult to adjust it. The problem faced is the excessive cost of therapy from the determination of costs in coding. But so far, we have relied on case managers to oversee the cost of therapy and procedures for each patient in the inpatient unit, thereby avoiding excess costs that are not in accordance with the INA-CBGs coding.*

B. Lung Specialist Interview Results

Question 1. What is the INA-CBGs tariff?

Answer: *INA-CBGs is an instrument for calculating payments to hospitals based on the patient's diagnosis.*

Question 2. How long does it take for patients to treat pulmonary tuberculosis and pneumonia?

Answer: *The time needed for patients to carry out therapy according to the clinical pathway for Pulmonary TB and Pneumonia is 5 days*

Question 3. What are my factors that might differentiate the real tariff for pulmonary TB and pneumonia according to the standard INA-CBGs tariff?

Answer: *One of the factors that can affect the cost of pulmonary TB and pneumonia therapy is the type of drug used. For example, pneumonia with a higher level of severity requires a stronger class of antibiotics and of course the price is more expensive. Then also the examinations needed to support the diagnosis and treatment together with other specialist doctors.*

Question 4. Does every patient who is treated for Pulmonary TB and Pneumonia with different levels of severity be treated with the same therapy?

Answer: *For the diagnosis of pneumonia, therapy is carried out for patients with different levels of severity, of course, receive different therapy. However, in pulmonary TB therapy is carried out in accordance with DOTS*

Question 5. What do you think about the ability of the staff/employees in terms of quantity and quality in implementing the INA-CBGs package rates at RSU Royal Prima Medan?

Answer: *The ability of staff/employees in terms of quantity and quality in implementing the INA-CBGs package rates at RSU Royal Prima Medan is quite good in terms of quantity and quality.*

Question 6. How, according to the doctor, is the implementation of hospital fees aligned with the INA-CBGs and the obstacles encountered and the solutions?

Answer: *The application of hospital fees at RSU Royal Prima refers to the general rate, in my opinion the rate should be made differently so that there is not much difference in price with the standard INA-CBGs rate. So far, I have coordinated quite well with the case manager in conducting pulmonary TB and pneumonia therapy*.

C. Interview Results of Finance Section Staff

Question 1. What is the difference between hospital rates and INA-CBGs rates?

Answer: *INA-CBGSs rates have been determined and have standards according to coding*

Question 2. What is the INA-CBGs tariff?

Answer: *INA-CBGs is an instrument for calculating payments to hospitals with a "package" system, based on the patient's illness. The meaning of Case Base Groups (CBG) itself is a method of paying for patient care based on relatively similar diagnoses or cases.*

Question 3. How much is the real tariff for Pulmonary TB and Pneumonia according to the standard INA-CBGs tariff?

Answer: *The real price range for hospitals with INA-CBGs is approximately 6.3 million rupiah*

Question 4. What are the factors that might differentiate the real rates for pulmonary TB and pneumonia according to the INA-CBGS standard rates?

Answer: *Factors that might differentiate the real rates for the treatment of pulmonary tuberculosis and pneumonia with the rates according to the INA-CBGs standard are different doctor's therapy from one doctor to another, different medicines, length of patient stay, co-patient with a specialist another, the difference in rooms that are the right of the patient according to the BPJS, as well as therapy for co-morbidities that do not increase coding.*

Question 5. Does the duration of Pulmonary TB and Pneumonia therapy affect the determination of INA-CBGs rates?

Answer: *The duration of therapy for pulmonary TB and pneumonia does not affect the determination of the INA-CBGs rates*

Question 6. What is the capacity of the staff/employees in terms of quantity and quality in implementing the INA-CBGs package rates at RSU Royal Prima Medan?

Answer: *The ability of staff/employees in terms of quantity and quality in implementing the INA-CBGs package rates at RSU Royal Prima Medan is quite good in terms of quantity and quality.*

Question 7. How is the application of hospital fees aligned with the INA-CBGs and the obstacles encountered and the solutions?

Answer: *In aligning INA-CBGs rates, hospitals face problems of misalignment of costs, mainly due to co-patients with other specialists, drugs that do not comply with the BPJS format, and excessive patient length of stay. For solutions to these problems, we implement higher and more thorough supervision by case managers, and if necessary, patients can be referred to other hospitals.*

D . Pneumonia Patient Interview Results 1

Question 1. How long have you been treated at RSU Royal Prima Medan?

Answer: *I have been treated for 3 days*

Question 2. Since when were you diagnosed with Pneumonia?

Answer: *I have been diagnosed with Pneumonia for 3 days ago*

Question 3. What is your total cost while being treated at RSU Royal Prima Medan

Answer: *None*

Question 4. What are your expenses outside of hospital care?

Answer: *Rp. 45,000 for transportation and Rp. 50,000 for meals*

E. Pneumonia Patient Interview Results 2

Question 1. How long have you been treated at RSU Royal Prima Medan?

Answer: *I have been treated for 2 days*

Question 2. Since when were you diagnosed with Pneumonia?

Answer: *I have been diagnosed with Pneumonia for 2 days ago*

Question 3. What is your total cost while being treated at RSU Royal Prima Medan

Answer: *none*

Question 4. What are your expenses outside of hospital care?

Answer: *the costs incurred only for eating are IDR 100,000*

F. Pulmonary TB Patient Interview 1

Question 1. How long have you been treated at RSU Royal Prima Medan?

Answer: *I have been treated for 7 days*

Question 2. Since when were you diagnosed with pulmonary TB?

Answer: *I was diagnosed with pulmonary TB 6 days ago*

Question 3. What is your total cost while being treated at RSU Royal Prima Medan

Answer: -

Question 4. What are your expenses outside of hospital care?

Answer: *The costs I incur are Rp. 40,000 for transportation, Rp. 50,000 for food and Rp. 12,000 for medicine.*

G. Interview with Pulmonary TB Patients 3

Question 1. How long have you been treated at RSU Royal Prima Medan?

Answer: *I have been treated for 6 days*

Question 2. Since when were you diagnosed with pulmonary TB?

Answer: *I was diagnosed with pulmonary TB 6 days ago*

Question 3. What is your total cost while being treated at RSU Royal Prima Medan

Answer: *none*

Question 4. What are your expenses outside of hospital care?

Answer: *the cost that I spent was Rp. 30,000 for transportation and Rp. 50,000 for food*

Discussion

The results of this study indicate that the majority of patients who receive pulmonary TB and pneumonia therapy at the Royal Prima Medan General Hospital are male. In accordance with research, which stated that pneumonia patients were more common in men (69.23%) than in women (30.77%) [19].More than 80% of the funding sources for TB and Pneumonia patients are BPJS, while the rest are at their own expense [2]. Basically, BPJS already covers the medical expenses for TB and Pneumonia patients, but what must be considered is the issue of payment. TB Directorate General of Disease Prevention and Control in collaboration with the Director General of Pharmacy and Medical Devices has allocated the cost of purchasing TB program drugs [2]. Meanwhile, BPJS pays for hospitals using the INA-CBGs system, where the payment package includes TB drugs that must be given to patients. Seeing this system there is double financing for TB drugs. On the one hand, the drug program is given free of charge to TB patients, on the one hand, BPJS pays hospital claims for TB patients, including drug costs. This needs to be resolved immediately to prevent double budgeting for TB drugs.BPJS ownership does not guarantee that TB and Pneumonia patients are free of all kinds of costs. TB and Pneumonia patients still have to incur other costs such as transport costs and drug costs for accompanying complaints such as cough and fever. Transport costs are incurred by the patient because the patient has to go to the hospital, redeem the rest of the drug at another pharmacy because the drug provided by the hospital is only 15 days. Drug costs are borne by the patient because the patient has to redeem drugs that are not given by the hospital because the drugs are empty. This needs to be addressed immediately because TB and Pneumonia patients cannot stop their treatment.This incident triggers the patient not to receive the medicine they should, the dose of administration is reduced if the patient does not continue treatment because he does not have money for transport costs or the cost of buying medicine.

Based on the results of interviews with TB and Peneumonia patients, it was found that in carrying out therapy at the hospital, in addition to incurring direct costs, namely in the form of therapy costs and drug costs, they also incur indirect costs, as the most common are transport costs and food costs, which is based on the interview results It was found that for pulmonary TB patients, on average, they had to pay an indirect cost of Rp. 88,914, and for pneumonia patients must pay an indirect cost of Rp. 43,570.The cost of therapy for pulmonary TB and pneumonia patients has actually been grouped into one financing, namely INA-CBGs, which based on the results of interviews conducted with financial management at RSU Royal Prima Medan INA-CBGs are instruments for calculating payments to hospitals with a "package" system. based on the patient's disease. The meaning of Case Base Groups (CBG) itself is a method of paying for patient care based on relatively similar diagnoses or cases. The number of tariffs issued by patients is the real range of hospital fees with INA-CBGs of approximately 6.3 million rupiah, which all depends on the type of class we take.But there are still many who are wondering about what factors differentiate rates according to the INA-CBGs standard, the results of answers from the financial management section say that the factors that might distinguish the real rates for the treatment of pulmonary TB and pneumonia with rates according to the INA-CBGs standards are doctor's therapy that differs from one doctor to another, different medicines, length of patient stay, co-patient with other specialist doctors, difference in rooms that are the right of the patient according to the BPJS, as well as therapy for co-morbidities that do not increase coding, but must It is also known that the duration of Pulmonary TB and Pneumonia therapy does not affect the determination of INA-CBGs rates.

The results of this study say that the rates for pulmonary TB are different because there are patients with a long duration of hospitalization and the condition of the patients who are hospitalized are mostly patients with severe complaints that require pharmacological therapy and a lot of medical devices [20].A large amount of money is required to fulfill pneumonia therapy. The results showed that the higher the severity of pneumonia and the administration of inappropriate therapy would have an impact on health costs, especially medical costs and would exacerbate the economic burden on the community [19]. There are several factors from the patient that affect the cost of pneumonia therapy such as the patient's age, severity, length of stay in the hospital and the presence of co-morbidities [19].The therapy used aims to kill the microorganisms that cause pneumonia. Treatment of pneumonia is done empirically using broad spectrum

antibiotics. Antibiotic therapy for pneumonia is based on the likely causative pathogen. This is due to the various etiological agents of pneumonia, so the choice of drug depends on the patient's age, history of exposure, possible resistance and clinical manifestations [21].

IV. CONCLUSION

The majority of pulmonary TB therapy patients at RSU Royal Prima Medan were male, 26 patients and 9 female patients. For Pneumonia patients, the majority of patients were male, 24 patients and patients who were female, 11 patients. The direct costs of patients for pulmonary TB therapy are based on the INA-CBGs rates, for class I the costs incurred by patients for pulmonary TB therapy based on the INA-CBGs rates are Rp. 6,144,000, for class II are Rp. 5,266,200, and for class III are Rp. 4,388 .500. The direct costs of Pneumonia therapy patients based on the INA-CBGs rates, for class I is IDR 5,119,200, for class II is IDR 4,387,900, and for class III is IDR 3,656,600, these costs are distributed into several costs such as registration fees, consulting fees, laboratory fees, drug costs and X-ray fees.

Indirect costs incurred by patients with pulmonary TB therapy who undergo therapy at the Royal Prima Medan General Hospital in Medan, on average, the patient spends IDR 88,914. Indirect costs incurred by Pneumonia therapy patients who undergo therapy at RSU Royal Prima Medan on average, patients spend Rp. 43,570. This fee is the sum of transportation costs, food costs, losses due to leave, patient care costs, and drug costs that are not available at the hospital. The duration of therapy for pulmonary TB patients at RSU Royal Prima Medan was in the majority > 5 days in 23 (65.7%) patients, and 1-5 days in 12 (34.3%) patients. The majority of Pneumonia patients at RSU Royal Prima Medan spent 1-5 days in 24 (68.6%) patients, and > 5 days in 11 (31.4%) patients.

Suggestion

For RSU Royal Prima Medan, they always supervise and monitor health service fee claims through monitoring the coding and verification processes (accuracy of diagnosis coding). For future researchers, it is hoped that when conducting research they can see and determine the right time, especially if it is known that the number of employees in the operational section is small. This can cause researchers to experience difficulties in data collection and time adjustments when conducting interviews, and can disrupt the smooth operation of operations in the hospital.

V. ACKNOWLEDGMENTS

The author would like to thank the Director of Royal Prima Hospital for supporting this research, Prima Indonesia University and the head of the Public Health Masters Study Program, Faculty of Medicine, Dentistry and Health Sciences. We also thank the supervising lecturers for their valuable advice.

REFERENCES

[1] Puspasari, S. F. (2019). Asuhan Keperawatan Pada Pasien Dengan Gangguan Sistem Pernapasan. Yogyakarta: Pustaka Baru.

[2] Ida, D.S. Max, J.H, Andi, L.S. (2018). Cost Analysis of Category One Pulmonary Tuberculosis Treatment in Adult Patient in Hospital in Dki Jakarta.

[3] Who. (2018). Global Tuberculosis Report Who 2018. In Who Report (Vol. 69, Issue 4).

[4] Kementerian Kesehatan Indonesia. Hasil Utama Riskesdas 2018. Kementerian Kesehatan Indonesia Badan Penelitian Dan Pengembangan Kesehatan. Jakarta. 2018.

[5] Andri, J., Karmila, R., Padila, P., Harsismanto, J., & Sartika, A. (2019). Pengaruh Terapi Aktivitas Senam Ergonomis Terhadap Peningkatan Kemampuan Fungsional Lansia. ***Journal Of Telenursing***, 1(2), 304–313. Https://Doi.Org/Https://Doi.Org/10.31539/Joting.V1i2.933

[6] Susanti S. Pemetaan Penyakit Pneumonia di Provinsi Jawa Timur. ***Jurnal Biometrika dan Kependudukan***. 2016;5(2):117-

[7] Swapna, M.K & Pranati, Baura. (2017). Effectiveness Of Structured Teaching Program on Knowledge, Attitude, And Practice Regarding Prevention of Pneumonia Among Mothers of Under Five Children. ***International Research Journal of Natural and Applied Science***. 4 (10), 77-84.

[8] World Health Organization (2019). Pneumonia. World Health Organization. Http://Www.Who.Int/News-Room/Fact-Sheets/Detail/Pneumonia-Diakses Agustus 2021.
[9] Kemenkes. (2017). Modul Pelatihan Pencegahan Pengedalian Penyakit TB. Jakarta: Direktorat Jenderal Pencegahan Dan Pengendalian Penyakit Menular Kemenkes RI, 2017.
[10] Dhuha, S. (2016). Analisis Biaya Pengobatan Berdasarkan Clinical Pathway Tuberkulosis Paru di Rsud Sultan Syarif Mohamad Alkadrie Kota Pontianak. **Skripsi** Universitas Tanjungpura
[11] Ni Made. I. (2016). Pengaruh Dukungan Kelurga Terhadap Kepatuhan Minum Obat Penderita Turberkulosis Di Puskesmas Motoboi Kecil Kota Kotamobagu.
[12] Shanshan. Z. Beatrice, I. Shamim, A. (2017). Cost–Effectiveness Analysis Of Revised Who Guidelines For Management Of Childhood Pneumonia In 74 Countdown Countries. ***Journal Global Healt***.
[13] Permenkes, 2016. Peraturan Menteri Kesehatan Republik Indonesia Nomor 72 Tahun 2016 Tentangstandar Pelayanan Kefarmasian Di Rumah Sakit.Jakarta: Kementrian Kesehatan Republik Indonesia.
[14] Hernowo, Dkk. 2018. Analis Tarif Layanan Kesehatan BPJS Kesehatan (INA-CBG) Dan Efesiensi Layanan Tahun 2017 (Studi Kasus Pada RS. XXX) Http://Repository.Perbanas.Id/Xmlui/Bitstream/Handle/123456789/1687/BPJS%20dan %20ABC.Pdf?Sequence =1
[15] Peraturan Menteri Kesehatan Republik Indonesia Nomor 76 Tahun 2016 Tentang Pedoman Indonesian Case Base Groups (INA-CBG) Dalam Pelaksanaan Jaminan Kesehatan Nasional. Www.Jamsosindonesia.Com. Diakses Pada Tanggal 29 Agustus 2021.
[16] Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung: ALFABETA, CV.
[17] Sofro H.M.AU, Anurogo D. 2018. Praktis dan Jitu Atasi Penyakit Infeksi dan Problematika Kesehatan. Yogyakarta: Rapha Publishing.
[18] LeMone, Burke, & Bauldoff, (2016). Keperawatan Medikal Bedah, Alih Bhasa. Jakarta: EGC
[19] Nuraini, 2018, Gambaran Pengobatan Dan Analisi Biaya Terapi Pneumonia Pada Pasien Anak Di Instalasi Rawat Inap RS" X" Tahun 2011, Naskah Publikasi, Fakultas Farmasi Universitas Muhammadiyah Surakarta, Surakarta.**SKRIPSI**
[20] Anugrah, F. Sekeon, S. Nangoy, E. 2019. Unit Cost Analysis of Tuberculous Meningitis Patients Admitted in R.D. Kandou Hospital Manado. ***Jurnal Sinaps,*** Vol. 2 No. 1 (2019), Hlm. 43-56
[21] Na'imatul, R.F. 2019. Kesesuaian Biaya Riil Terhadap Tarif Ina-Cbg's Pada Pasien Jkn Pneumonia Komuniti Pediatrik Rawat Inap Kelas 3 Di Rsud Dr. Moewardi. ***Jurnal Kesehatan Tujuh Belas (Jurkes Tb)*** Issn: 2715-0976.