

PERCEPTION OF PULMONARY TB PATIENTS ON TREATMENT WITH DIRECTLY OBSERVED TREATMENT SHORT COUSE (DOTS) STRATEGY IN THE UPTD AREA OF THE SERBELAWAN SIMALUNGUN DISTRICT PUSKESMAS IN 2020

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Abstract

Pulmonary tuberculosis is an infectious disease which is still a major health problem and needs to be treated intensively in developing countries including Indonesia. To overcome this problem, since 1995 Indonesia adopted the Directly Observed Treatment Shortcourse (DOTS) strategy recommended by WHO and this strategy is deemed quite effective. This research was conducted in the work area of the UPTD Serbelawan Health Center, Simalungun Regency using a descriptive design as research. This study aims to identify the perceptions of pulmonary TB sufferers towards treatment with the Directly Observed Treatment Shortcourse (DOTS) strategy at the UPTD Puskesmas Serbelawan, Simalungun Regency. The population in this study were pulmonary TB patients who were being treated at the UPTD Serbelawan Health Center. The number of samples studied was 40 people using total sampling technique. Data collection was done by using a questionnaire consisting of demographic data and perceptions of the strategic Directly Observed Treatment Short course (DOTS) as measured by a Likert scale. The results showed that pulmonary tuberculosis sufferers had a positive perception of treatment with the Directly Observed Treatment Short course (DOTS) strategy, however, the participation of all parties is still needed to help cure pulmonary TB sufferers and minimize the chain of transmission of pulmonary tuberculosis and especially health workers / health center nurses. Serbewan to always provide information and counseling about pulmonary tuberculosis. Data collection was done by using a questionnaire consisting of demographic data and perceptions of the strategic Directly Observed Treatment Short course (DOTS) as measured by a Likert scale. The results showed that pulmonary tuberculosis sufferers had a positive perception of treatment with the Directly Observed Treatment Short course (DOTS) strategy, however, the participation of all parties is still needed to help cure pulmonary TB sufferers and minimize the chain of transmission of pulmonary tuberculosis and especially health workers / health center nurses. Serbewan to always provide information and counseling about pulmonary tuberculosis. The results showed that pulmonary tuberculosis sufferers had a positive perception of treatment with the Directly Observed Treatment Short course (DOTS) strategy, however, the participation of all parties is still needed to help cure pulmonary TB sufferers and minimize the chain of transmission of pulmonary tuberculosis and especially health workers / health center nurses. Serbewan to always provide information and counseling about pulmonary tuberculosis. The results showed that pulmonary tuberculosis sufferers had a positive perception of treatment with the Directly Observed Treatment Short course (DOTS) strategy, however, the participation of all parties is still needed to help cure pulmonary TB sufferers and minimize the

chain of transmission of pulmonary tuberculosis and especially health workers / health center nurses. Serbewan to always provide information and counseling about pulmonary tuberculosis.

Keywords: Perception of Pulmonary TB Patients, DOTS Strategy

INTRODUCTION

Since 1993, WHO has stated that TB is a global emergency for humanity. Although the Directly Observed Treatment Shortcourse (DOTS) strategy has proven to be very effective for TB control, the burden of TB disease in society is still very high. With the various advances achieved since 2003, it is estimated that there are still around 9.5 million new cases of TB, and around 0.5 million people die from TB worldwide (WHO, 2009). In addition, TB control faces new challenges such as TB/HIV co-infection, drug-resistant TB and other challenges with an increasingly high level of complexity (Ministry of Health, 2014). The 2004 survey also revealed patterns of seeking health services. If there are family members who have TB symptoms, 66% will choose to visit the Puskesmas, 49% to private practice doctors, 42% to government hospitals, 14% to private hospitals and 11% to Private Practice Midwives or Nurses. However, the respondents who had undergone TB treatment used hospitals, health centers and private medical practices. Further analysis at the regional level shows that the Puskesmas is the main FPK in KTI, while for other areas the hospital is the main facility. Delays in accessing Directly Observed Treatment Shortcourse (DOTS) facilities for TB diagnosis and treatment are a major challenge in Indonesia with a very wide geographical area (Ministry of Health, 2014) used are Hospitals, Community Health Centers and Private Doctor's Practices. Further analysis at the regional level shows that the Puskesmas is the main FPK in KTI, while for other areas the hospital is the main facility. Delays in accessing Directly Observed Treatment Shortcourse (DOTS) facilities for TB diagnosis and treatment are a major challenge in Indonesia with a very wide geographical area (Ministry of Health, 2014) used are Hospitals, Community Health Centers and Private Doctor's Practices. Further analysis at the regional level shows that the Puskesmas is the main FPK in KTI, while for other areas the hospital is the main facility. Delays in accessing Directly Observed Treatment Shortcourse (DOTS) facilities for TB diagnosis and treatment are a major challenge in Indonesia with a very wide geographical area (Ministry of Health, 2014)

Today, one third of the world's population has been infected with pulmonary tuberculosis (Ministry of Health, 2012). According to WHO, there are around 9 million people in the world attacked by tuberculosis (TB) with 3 (three) million deaths per year (WHO, 2011). With the emergence of the HIV/AIDS epidemic in the world, it is estimated that TB sufferers will increase, in which HIV infection results in extensive damage to the cellular immune system (cellular immunity) so that if opportunistic infections such as TB occur, the person concerned will become seriously ill and could even result in death. TB disease attacks adults and children, men and women. WHO data (2010) shows that in the world TB kills one million women every year. Meanwhile, half a million people die from pregnancy and childbirth every year. So,

Specifically in Indonesia, WHO data shows that Indonesia is the third largest contributor of cases in the world after India and China. The results of the 2010 Household Health Survey (SKRT) showed that TB was the third cause of death after cardiovascular disease and respiratory disease in the age group and number one in the infectious disease category. In 2014, there were 211,753 new cases of TB in Indonesia, which caused around 140,000 deaths per year. Based on the results of the WHO together with the Indonesian Ministry of Health in 2010 the number of TB sufferers in Sumatra including North Sumatra Province was set from 130 to 160 and 100,000 residents (Ministry of Health, 2012).

TB disease is a disease that disrupts human resources and generally attacks groups of people with low socioeconomic status, this disease spreads quickly to people who are vulnerable and have weak immune systems, it is estimated that an active TB sufferer can transmit TB bacilli to 10 people around him (Ministry of Health, 2012). The increase in cases and deaths caused by pulmonary TB is partly due to not being treated, not understanding that they have been infected with TB bacilli, also due to low coverage rates, high coverage but low treatment outcomes and the presence of new cases due to the demographic transition (Retno.G,et all, 2010).

In 2011, WHO recommends a coordinated program called the Directly Observed Treatment Shortcourse (DOTS) strategy or direct supervision of ingesting short-term/daily drugs which consists of five components, namely: political commitment from decision makers including financial support, microscopy diagnosis, treatment with short-term drugs under direct supervision by a drug swallowing supervisor (PMO), guaranteed drug availability and a good and uniform recording and reporting system. To further strengthen the Directly Observed Treatment Shortcourse (DOTS) strategy in suppressing and reducing the number of pulmonary TB sufferers, the Ministry of Health formed the National Integrated TB Management Movement (GERDUNAS-T13) in 1999 and targeted that within the next 5 years the prevalence of pulmonary TB sufferers could decrease to 50 percent. %.

A person's perception is strongly influenced by: educational background, culture, socio-economic, race, gender, experience (Arwani, 2012). The existence of wrong perceptions can hinder the implementation of treatment programs, such as not completing treatment and not returning for follow-up visits because most sufferers feel healthy after taking medication for 2-3 weeks, and are also bored to take medication every day (Retno.G .et all, 2010).Therefore, it is necessary to identify how pulmonary TB sufferers perceive treatment with the Directly Observed Treatment Shortcourse (DOTS) strategy. for the success of pulmonary TB treatment because this can be used as input material in conducting interventions related to the implementation of pulmonary TB treatment with Directly Observed Treatment Shortcourse (DOTS).

Pulmonary Tuberculosis is an infectious disease which is still a major health problem and needs to be treated intensively in developing countries including Indonesia.*Directly Observed Treatment Short Course (DOTS)*recommended by WHO and

this strategy is considered quite effective. The purpose of this study was to determine public perceptions of pulmonary TB control programs using the Directly Observed Treatment Shortcourse (DOTS) strategy in the treatment of pulmonary TB. lungs at the Peuteulak Health Center in East Aceh in 2005, using a qualitative design stated that in general the informants believed and believed in the government's treatment process. With this belief and trust, it will greatly help them obtain healing (Zulkarnaini 2005)

The UPTD of the Serbelawan Health Center in Simalungun Regency is one of the Community Health Centers within the Simalungun District Health Office which has implemented the Directly Observed Treatment Shortcourse (DOTS) strategy in the treatment of pulmonary TB, where in 2020 the coverage of positive smear positive pulmonary TB was 40 people, this shows that Pulmonary TB coverage rates are still high.

Based on the background above, the author is interested and wants to know what the perception of pulmonary TB sufferers is regarding treatment with the Directly Observed Treatment Shortcourse (DOTS) strategy in the UPTD area of Serbelawan Health Center, Simalungun Regency in 2020.

LITERATURE REVIEWS

Perception

Perception, namely the direct response (acceptance) of something, absorption or perception can also be interpreted as the process of a person knowing several things about his five senses (Big Indonesian Dictionary). Perception is the experience of objects, events or relationships that are obtained by concluding information and interpreting messages (Rachmat, 2011).

Perception is a reflection of a person's "feelings of the soul" towards a certain stimulus that occurs in their environment, both within the individual concerned and outside himself or facing him (Potter & Perry in Arwani, 2012). Each person will feel, interpret and understand the environment differently. Perceptions are usually formed through individual goals and expectations.

Perception is an experience that is produced through the senses of sight, hearing, smell, and so on (Notoatmodjo, 2012). Everyone has a different perception, even though the object is the same. According to Robin (2011) as an individual process for selecting, organizing and interpreting stimuli into a meaningful picture of the world around it.

Pulmonary TB

Tuberculosis (TB) is a direct infectious disease caused by the bacterium *Mycobacterium tuberculosis*. Transmission of these germs is through the air and can survive in the air for several minutes to hours after being expelled by TB sufferers when coughing, sneezing, singing and talking, and around 30% of people who are exposed will be infected (Keliat, 2012).

Dots Strategy

Directly Observed Treatment Short Course (DOTS), is a short-term TB cure strategy with direct supervision. Or in other words, the Directly Observed Treatment Short Course (DOTS) is short-term TB treatment under close supervision by a health worker or the sufferer's family. By using the Directly Observed Treatment Short Course (DOTS) strategy, the TB healing process can be done quickly. The Directly Observed Treatment Short Course (DOTS) emphasizes the importance of supervising TB sufferers so that they take their medicine regularly according to the provisions, until they are declared cured. The Directly Observed Treatment Short Course (DOTS) strategy has been proven by various field trials to provide a high cure rate. The World Bank stated that the Directly Observed Treatment Short Course (DOTS) strategy is the most effective health strategy.

METHODS

Types of research

This type of research is descriptive with a cross-sectional design which aims to describe the perceptions of positive smear pulmonary tuberculosis patients who come for outpatient treatment at the UPTD Serbelawan Health Center, Simalungun Regency, in 2020 regarding treatment with the direct observation short course (DOTS) strategy.

Location and Time of Research

a. Research sites

This research was conducted at the UPTD Puskesmas Serbelawan, Simalungun Regency, in 2020. Also because the research location is the work institution of the researcher so that the researcher is more familiar with the situation from the research environment, close to where the researcher lives so that he can save research costs.

b. Research time

The research was conducted for 6 weeks, from 15 September to 24 October 2020.

Population and Sample

a. Research Population

The population in this study were all pulmonary TB patients who came for treatment starting in July 2020 at the UPTD Serbelawan Health Center, Simalungun Regency, totaling 40 people.

b. Research Sample

UPTD data from the Serbelawan Health Center in Simalungun Regency, which began treatment in July 2020 with a coverage of 40 positive smear positive pulmonary TB patients. According to Arikunto (2008), if in research the number of subjects is less than 100, it is better to take all of them. In this case, this research is a population study where all populations become research subjects (total sampling). The samples used were smear-

positive pulmonary TB patients who came for treatment at the UPTD Serbelawan Health Center, Simalungun Regency. Able to speak Indonesian, willing and participating in research, and all of them are adults.

Method of collecting data

The data collection method used is guided by the questionnaire. Data collection began after the researcher received a research permit from the educational institution of the Faculty of Health, Undergraduate Nursing Study Program at Efarina University and a permit from the Simalungun District Health Office or UPTD Serbelawan Health Center, Simalungun District. When collecting data, the researcher first introduced himself and explained to the respondents the aims, benefits and procedures of the research. After obtaining the respondent's consent, the researcher distributed the questionnaires and accompanied the respondents when filling out the questionnaire. Data collection was carried out by researchers at the UPTD Serbelawan Public Health Center, Simalungun Regency when patients came to take medicine every week.

Data Processing Techniques

To obtain information from respondents, the researcher used a data collection tool in the form of a self-made questionnaire based on the conceptual framework and literature review.

The research instrument is divided into 2, namely, the first data is about demographic data which contains the respondent's age, gender, religion, ethnicity, education and occupation. While the second data contains statements that can be used to determine respondents' perceptions of treatment with the Directly Observation Treatment Short Course (DOTS) strategy, which is assessed from 4 aspects, namely, perceptions of PMO (statements No. 1 – 6), perceptions of giving OAT (statement No. 7 – 12), perceptions of health workers (statements No. 13 – 18) and perceptions of recovery rates (statements No. 19 – 24).

Validity and Reliability Test

To determine the reliability of the instrument, an instrument reliability test was carried out which aims to determine the extent to which a measuring instrument can be trusted or relied upon to be used as a data collection tool. A good measuring tool is a measuring tool that gives the same results when used several times in a group of samples (Arikunto, 2002).

In this study using an internal reliability test obtained by analyzing data from one-time test results (Anikunto, 2002). The reliability test was carried out using Cronbach Alpha. The results of the reliability analysis for this questionnaire obtained that this questionnaire was reliable with a result of 0.78. This reliability test was tested on 10 positive smear pulmonary TB patients who came for treatment at the UPTD Serbelawan Health Center, Simalungun Regency, on October 6, 2020.

Data analysis

After all the data has been collected, data analysis is carried out by re-checking all the questionnaires one by one, namely the identity and data of the respondents and ensuring that all answers have been filled in according to the instructions. Then give a code to each statement that has been submitted to make it easier for researchers when tabulating, the data is processed using computerization, namely the SPSS (Statistical package for social science) program. Furthermore, the data is presented in the form of a frequency distribution and percentage.

Research Ethics

This research was conducted after the researchers obtained permission from the Faculty of Health Undergraduate Nursing Study Program at Efarina Pematangsiantar University and submitted a research permit application letter to the Head of the Siamlungun District Health Office or UPTD Serbelawan Health Center, Simalungun District. Then the researcher met the respondent and explained the aims and objectives of the research. The researcher also explained that the respondent's participation was voluntary, if the prospective respondent was willing then the respondent was welcome to sign an informed consent, the respondent also had the right to withdraw from the research and the researcher did not force and respect the respondent's rights.

To maintain confidentiality, the questionnaires given to respondents were given a certain code without a name and only researchers had access to this information.

RESULTS AND DISCUSSION

Research result

This chapter describes the results of the research after data collection was carried out from September 15 to October 24 2020, at the UPTD Serbelawan Health Center, Simalungun Regency. The results of this study were able to determine the characteristics of the respondents and describe the perceptions of positive smear pulmonary tuberculosis patients who came for outpatient treatment at the UPTD Puskesmas Serbelawan, Simalungun Regency in 2020 regarding treatment with the direct observation short course (DOTS) strategy.

Discussion

From the research results, it was found that all respondents (100%) had a positive perception of pulmonary TB treatment with the Directly Observed Treatment Shortcourse (DOTS) strategy. This positive perception is important for the success of pulmonary TB treatment, while negative perceptions can hinder the implementation of treatment programs such as not completing treatment and not returning for follow-up visits because most sufferers feel healthy and are also tired of taking medication every day (Retno. G, et all, 2012).

This positive perception is consistent with the Directly Observed Treatment Shortcourse (DOTS) strategy, namely short-term TB cure with direct supervision. Directly Observed Treatment Shortcourse (DOTS) is a short-term pulmonary TB treatment under close supervision by health workers or the patient's family. By using the Directly Observed Treatment Shortcourse (DOTS) strategy, the pulmonary TB healing process can be done quickly. Directly Observed Treatment Shortcourse (DOTS) emphasizes the importance of supervising pulmonary TB sufferers so that they take their medicine regularly as needed until they are declared cured. The Directly Observed Treatment Shortcourse (DOTS) strategy has been proven by various field trials to provide a high cure rate.

The results of this study are in accordance with the results of research conducted by Zulkarnaini (2005) regarding the perceptions of pulmonary TB sufferers of the Directly Observed Treatment Shortcourse (DOTS) program, in the treatment of pulmonary TB at the Peureulak National Health Center, East Aceh 2005 using a qualitative design which stated that generally informants believed and believe in the treatment process carried out by the government. With this belief and trust will really help them get healed.

Characteristics of Respondents

The results showed that most of the respondents were male (75%), this was due to differences in lifestyle between men and women, where men had bad life habits such as smoking, drinking alcohol and staying up late which resulted in poor endurance. the body becomes weak (Aditama, 2003). And the majority of respondents were aged 36-52 years (40%) and aged 17-35 years (35%), this is in accordance with WHO data (1997) that pulmonary TB is an important cause of death at productive age, causing poverty. The majority of respondents' education was high school (47.5%) and junior high school (40%) with relatively high awareness of the respondent's education to undergo regular and complete pulmonary TB treatment which is also relatively high, this is in accordance with the research of Retno G et al (2010).

The majority of respondents are Christian (55%), Batak ethnicity (75%), most of them do not work (40%). In general, pulmonary TB attacks groups of people with low socioeconomic status, this disease spreads quickly to people who are vulnerable and have weak immune systems (Girsang, 2012).

Perceptions of Pulmonary TB Patients Against Treatment Using the Directly Observed Treatment Shortcourse (DOTS) Strategy

In this study, patient perceptions of treatment with the Directly Observed Treatment Shortcourse (DOTS) strategy can be seen from several aspects such as perceptions of drug swallowing supervisors (PMO), administration of anti-tuberculosis drugs (OAT), health workers and also the recovery rate.

a. Perceptions of Pulmonary TB Patients towards Drug Swallowing Supervisors (PMO)

The majority of respondents answered that they agreed that drug-taking supervisors (PMO) are people who supervise/control patients taking medication

(57.5%), this is in accordance with the definition of drug-taking supervisors (PMO), namely people who supervise and control medication using the DOTS approach. The majority of respondents agree that drug swallowing supervisors (PMO) are very important in assisting the TB treatment process (85%). This is in accordance with the task of the drug swallowing supervisor (PMO), namely to ensure and prevent resistance and create regularity of treatment and prevent drop out (neglect).

The majority of respondents agree that a drug swallowing supervisor (PMO) can be anyone who is believed to be able to supervise patients taking medication (72.5%), this is in accordance with the requirements to become a drug swallowing supervisor (PMO), namely someone who is known, trusted and respected and approved, both by health workers and sufferers, besides that it must be respected and respected by sufferers. Have a place to live close to the sufferer. Willing to help sufferers voluntarily. Willing to be trained and get counseling together with sufferers.

The majority of respondents agreed that the drug swallowing supervisor (PMO) played a role in encouraging patients to take medication regularly (70%). This is in accordance with the task of the drug swallowing supervisor (PMO), which is to supervise pulmonary TB patients so that they take medication regularly until treatment is finished.

The majority of respondents did not agree that without a drug swallowing supervisor (PMO) the patient could carry out the treatment properly (90%). This is related to the duties of the PMO who always reminds them to take medicine every day, motivates patients not to stop taking their medication and always reminds them to take medicine every day.

Tuberculosis treatment aims to cure patients, prevent death, prevent recurrence and reduce transmission rates. Therefore, drug administration supervisors (PMO) are very necessary, but 57.5% of respondents agree that drug administration supervisors (PMO) do not know anything about TB treatment. This is related to the characteristics of PMO that TB sufferers want, namely people who think mature, dare to express opinions, have broader insights and experiences, are easy to communicate with and have good knowledge about health.

b. Perception of Pulmonary TB Patients towards anti-tuberculosis drugs (OAT)

In this study it was also seen that 90% of respondents agreed that treatment with anti-tuberculosis drugs (OAT) required a long time. This is in accordance with the principles of pulmonary TB treatment, namely by combining several types of drugs in sufficient quantities and the right dose for 6 to 8 months. The majority of respondents did not agree that if after 2 months of treatment there was no improvement then the treatment could be stopped (97.5%), did not agree that the anti-tuberculosis drugs, which were many in number and type, could be eaten in half (80%), did not agree that anti-tuberculosis drugs (OAT) that is used should be given all at once so that the patient does not go back and forth to the puskesmas (92.5%),

disagreeing that the anti-tuberculosis drugs used can be taken whenever we want (92.5%). TB treatment should not be half measures,

A sufferer sometimes stops taking the drug before the treatment period is finished, this happens because the patient does not understand that the drug must be swallowed entirely within the allotted time. The basic treatment of pulmonary TB consists of 2 phases, namely the intensive phase and the continuation phase. In the intensive phase, the drug is taken every day under direct supervision, while in the continuation phase, the drug is taken 3 times a week.

The treatment given depends on the type of patient, the length of previous treatment, the length of discontinuation of treatment and how the sputum examination results were when he returned to treatment. The use of short-term anti-tuberculosis drugs (OAT) in accordance with WHO recommendations, namely based on the category and classification of the disease is very important. Pulmonary anti-tuberculosis drugs used in accordance with government programs to prevent treatment failure.

The majority of respondents agree that the drugs given are actually very expensive and effective (95%), this is related to tuberculosis (TB) drugs which are combinations (consisting of several drugs).

c. Perceptions of Pulmonary TB Patients towards Health Workers

The majority of respondents agreed that they would ask the officer if something was not understood (72.5%), agreed that the health worker gave a lot of explanations about TB (92.5%), agreed that if side effects occur, the medication should just be stopped and there is no need to notify to health workers (77.5%), agreed that if there were family members, friends who had complaints like him, they would be advised to go to the puskesmas for treatment by health workers (65%), agreed that if he was going to travel out of town he would notify to health workers (70%) and agree that health workers will help them a lot in providing information on treatment (85%). This is in accordance with the role of health workers in the treatment of pulmonary TB, namely providing counseling to sufferers, families and PMO, especially during visits to health care units. The counseling provided includes: first is the amount of drug, frequency of drug ingestion, length of treatment and side effects. The second is about the importance of re-examination of sputum, the frequency and meaning of the results of the examination and the third is about the risks of irregular drug use. Health workers also play a role in ensuring that patients who drop out of treatment return to the health service unit.

d. Perceptions of Pulmonary TB Patients on Cure Rate

The results of the study also showed that 65% of respondents agreed that pulmonary TB is a dangerous disease, can be contagious but can be cured. Pulmonary TB is a disease caused by mycobacterium tuberculosis, it is estimated that an active pulmonary TB patient can transmit pulmonary TB bacilli to 10 people around him, but can be cured with regular and complete treatment (Ministry of

Health, 2005). The majority of respondents (75%) agree that re-examination is important to be carried out according to the schedule to see the progress of treatment, the majority of respondents do not agree that a person is declared cured, after complaints are no longer felt by the patient (67.5%), do not agree if the treatment is not finished/ incomplete, the patient must use stronger and more expensive drugs to recover (55%), agree that patients who have recovered will not be affected again, because they have already been exposed (60%) and agree that treatment will be successful (patients will recover) if all treatment rules are followed (92.5%). The patient is declared cured if the patient has completed the complete treatment and re-examination of the sputum for at least 2 times in a row the result is negative, namely at the AP and/or a month before the AP, and at one previous follow-up examination (Ministry of Health, 2005).

CLOSING

Research conducted on the perceptions of pulmonary TB sufferers towards treatment with the Directly Observation Treatment Short Course (DOTS) strategy in the UPTD area of the Serbelawan Health Center, Simalungun Regency, in 2020 resulted in the following conclusions.

The results showed that all 40 respondents with smear-positive pulmonary TB (100%) had a positive perception of pulmonary TB treatment with the Directly Observed Treatment Shortcourse (DOTS) strategy, in which positive ones would greatly assist the treatment process such as adherence to regular treatment.

REFERENCES

- Alimul, A (2011). *Riset Keperawatam dam Teknik Penulisan Ilmiah*. Jakarta: Salemba Medika.
- Arikunto. (2008). *Prosedur penelitian suatu pendekatan praktek*, Jakarta: Rhineka Ciptan Edisi Revisi V
- Arwani. (2010). *Komunikasi Dalam Keperawatan*. Jakarta: EGC.
- Bustani, B., Khaddafi, M. ., & Nur Ilham, R. (2022). REGIONAL FINANCIAL MANAGEMENT SYSTEM OF REGENCY/CITY REGIONAL ORIGINAL INCOME IN ACEH PROVINCE PERIOD YEAR 2016-2020. *International Journal of Educational Review, Law And Social Sciences (IJERLAS)*, 2(3), 459–468. <https://doi.org/10.54443/ijerlas.v2i3.277>.
- Depkes RI. (2011). *Pedoman Nasional Penanggulangan Tuberculosis*. Jakarta: Depkes RI Cetakan ke 9.
- Falahuddin, F., Fuadi, . F., Munandar, M., Juanda, R. ., & Nur Ilham, R. . (2022). INCREASING BUSINESS SUPPORTING CAPACITY IN MSMES BUSINESS GROUP TEMPE BUNGONG NANGGROE KERUPUK IN SYAMTALIRA ARON DISTRICT, UTARA ACEH REGENCY. *IRPITAGE JOURNAL*, 2(2), 65–68. <https://doi.org/10.54443/irpitage.v2i2.313>.
- Geovani, I. ., Nurkhotijah, S. ., Kurniawan, H. ., Milanie, F., & Nur Ilham, R. . (2021). JURIDICAL ANALYSIS OF VICTIMS OF THE ECONOMIC EXPLOITATION

- OF CHILDREN UNDER THE AGE TO REALIZE LEGAL PROTECTION FROM HUMAN RIGHTS ASPECTS: RESEARCH STUDY AT THE OFFICE OF SOCIAL AND COMMUNITY EMPOWERMENT IN BATAM CITY. *International Journal of Educational Review, Law And Social Sciences (IJERLAS)*, 1(1), 45–52. <https://doi.org/10.54443/ijerlas.v1i1.10>.
- Girsang, M. (2012). *Pengobatan Standar penderita TBC*. Jakarta: Cermin Dunia Kedokteran Nomor 137.
- Ilham, Rico Nur. *et all* (2019). Comparative of the Supply Chain and Block Chains to Increase the Country Revenues via Virtual Tax Transactions and Replacing Future of Money. *International Journal of Suplly Management*. Volume 8 No.5 August 2019.
- Ilham, Rico Nur. *et all* (2019). Investigation of the Bitcoin Effects on the Country Revenues via Virtual Tax Transactions for Purchasing Management. *International Journal of Suplly Management*. Volume 8 No.6 December 2019.
- Keliat, E.N. *et all*. (2012). *Pengobatan Tuberculosis Paru Yang Terbaru*. Suplemen MK Nusantara 37..
- Kementerian Kesehatan RI. (2011). Peraturan Menkes Tentang Strategi Nasional Pengendalian Tuberculosis Tahun 2011 *Pedoman Nasional Penanggulangan Tuberculosis*. ISBN: 978-602-8937-43-7 Depkes RI. Jakarta.
- Lasta Irawan, A. ., Briggs, D. ., Muhammad Azami, T. ., & Nurfaliza, N. (2021). THE EFFECT OF POSITION PROMOTION ON EMPLOYEE SATISFACTION WITH COMPENSATION AS INTERVENING VARIABLES: (Case Study on Harvesting Employees of PT. Karya Hevea Indonesia). *International Journal of Social Science, Educational, Economics, Agriculture Research, and Technology (IJSET)*, 1(1), 11–20. <https://doi.org/10.54443/ijset.v1i1.2>.
- Likdanawati, likdanawati, Yanita, Y., Hamdiah, H., Nur Ilham, R., & Sinta, I. (2022). EFFECT OF ORGANIZATIONAL COMMITMENT, WORK MOTIVATION AND LEADERSHIP STYLE ON EMPLOYEE PERFORMANCE OF PT. ACEH DISTRIBUS INDO RAYA. *International Journal of Social Science, Educational, Economics, Agriculture Research, and Technology (IJSET)*, 1(8), 377–382. <https://doi.org/10.54443/ijset.v1i8.41>.
- Mahfud *et all* (2020). Developing a Problem-Based Learning Model through E-Learning for Historical Subjects to Enhance Students Learning Outcomes at SMA Negeri 1 Rogojampi. *IOP Conf. Series: Earth and Environmental Science* 485 (2020) 012014 doi:10.1088/1755-1315/485/1/012014.
- Mahfud *et all* (2021). PEMANFAATAN TRADISI RESIK LAWON SUKU USING SEBAGAI SUMBER BELAJAR SEJARAH LOKAL PADA SMA DI BANYUWANGI. *Media Bina Ilmiah* Vol.16 No.3 Oktober 2021. <http://ejurnal.binawakya.or.id/index.php/MBI/article/view/1294/pdf>.
- Mahfud, M., Yudiana, I. K., & Sariyanto, S. (2022). HISTORY OF BANYUWANGI KALIKLATAK PLANTATION AND ITS IMPACT ON SURROUNDING COMMUNITIES. *International Journal of Educational Review, Law And Social Sciences (IJERLAS)*, 3(1), 91–104. <https://doi.org/10.54443/ijerlas.v3i1.492>.
- Majied Sumatrani Saragih, M. ., Hikmah Saragih, U. ., & Nur Ilham, R. . (2021). RELATIONSHIP BETWEEN MOTIVATION AND EXTRINSIC MOTIVATION TO ICREASING ENTREPRENEURSHIP IMPLEMENTATION FROM SPP AL-FALAH GROUP AT BLOK 10 VILLAGE DOLOK MASIHUL. *MORFAI JOURNAL*, 1(1), 1–12. <https://doi.org/10.54443/morfai.v1i1.11>.

- Muhammad Mansur, dkk (2015) *Analisis Penatalaksanaan Program Penanggulangan Tuberkulosis Paru Dengan Strategi DOTS di Puskesmas Desa Lalang Kecamatan Medan Sunggal tahun 2015*, Departemen AKK-FKM USU, 2015 Medan
- Notoatmodjo,S. (2012). *Pendidikan dan Prilaku Kesehatan*. Jakarta: Rineka Cipta Cetakan I.
- Nur Ilham, R. ., Arliansyah, A., Juanda, R., Multazam, M. ., & Saifanur, A. . (2021). RELATHIONSIP BETWEEN MONEY VELOCITY AND INFLATION TO INCREASING STOCK INVESTMENT RETURN: EFFECTIVE STRATEGIC BY JAKARTA AUTOMATED TRADING SYSTEM NEXT GENERATION (JATS-NG) PLATFORM. *International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration (IJEBA)*, 1(1), 87–92. <https://doi.org/10.54443/ijevas.v1i1.27>.
- Nur Ilham, R., Heikal, M. ., Khaddafi, M. ., F, F., Ichsan, I., F, F., Abbas, D. ., Fauzul Hakim Hasibuan, A. ., Munandar, M., & Chalirafi, C. (2021). Survey of Leading Commodities Of Aceh Province As Academic Effort To Join And Build The Country. *IRPITAGE JOURNAL*, 1(1), 13–18. <https://doi.org/10.54443/irpitage.v1i1.19>.
- Nur Ilham, R., Arliansyah, A., Juanda, R. ., Sinta, I. ., Multazam, M. ., & Syahputri, L. . (2022). APPLICATION OF GOOD CORPORATE GOVERNANCE PRINCIPLES IN IMPROVING BENEFITS OF STATE-OWNED ENTERPRISES (An Emperical Evidence from Indonesian Stock Exchange at Moment of Covid-19). *International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration (IJEBA)*, 2(5), 761–772. <https://doi.org/10.54443/ijevas.v2i5.410>.
- Nur Ilham, R., Likdanawati, L., Hamdiah, H., Adnan, A., & Sinta, I. . (2022). COMMUNITY SERVICE ACTIVITIES “SOCIALIZATION AVOID STUDY INVESTMENT” TO THE STUDENT BOND OF SERDANG BEDAGAI. *IRPITAGE JOURNAL*, 2(2), 61–64. <https://doi.org/10.54443/irpitage.v2i2.312>.
- Potter & Perry Dalam Arwani 2012
- Purwaningsih, dkk (2008) *Persepsi Penderita Tb BTA (+) Tentang Pengobatan Dengan Status Kesembuhan*, Jurnal Ners Vol. 4 No. 2: 175-181, Fakultas Keperawatan Universitas Airlangga 2008. Surabaya.
- Rahmaniar, R., Subhan, S., Saharuddin, S., Nur Ilham, R. ., & Anwar, K. . (2022). THE INFLUENCE OF ENTREPRENEURSHIP ASPECTS ON THE SUCCESS OF THE CHIPS INDUSTRY IN MATANG GLUMPANG DUA AND PANTON PUMP. *International Journal of Social Science, Educational, Economics, Agriculture Research, and Technology (IJSET)*, 1(7), 337–348. <https://doi.org/10.54443/ijset.v1i7.36>.
- Rahmat, J.(2011). *Psikologi Komunikasi*, Bandung: Remaja Rosdakarya Cetakan ke 21.
- Rico Nur Ilham, Irada Sinta, & Mangasi Sinurat. (2022). THE EFFECT OF TECHNICAL ANALYSIS ON CRYPTOCURRENCY INVESTMENT RETURNS WITH THE 5 (FIVE) HIGHEST MARKET CAPITALIZATIONS IN INDONESIA. *Jurnal Ekonomi*, 11(02), 1022–1035. Retrieved from <http://ejournal.seaninstitute.or.id/index.php/Ekonomi/article/view/481>.
- Robin (2011) *Prilaku Organisasi*, Jakarta. Prenhalindo
- Sandi, H. ., Afni Yunita, N. ., Heikal, M. ., Nur Ilham, R. ., & Sinta, I. . (2021). RELATIONSHIP BETWEEN BUDGET PARTICIPATION, JOB CHARACTERISTICS, EMOTIONAL INTELLIGENCE AND WORK

- MOTIVATION AS MEDIATOR VARIABLES TO STRENGTHENING USER POWER PERFORMANCE: AN EMPIRICAL EVIDENCE FROM INDONESIA GOVERNMENT. *MORFAI JOURNAL*, 1(1), 36–48. <https://doi.org/10.54443/morfai.v1i1.14>.
- Sarwono S (2011). *Sosiologi Kesehatan Beberapa Konsep Beserta Aplikasinya*, Yogyakarta: Gajah Mada University Press.
- Sinta, I., Nur Ilham, R. ., Authar ND, M. ., M. Subhan, & Amru Usman. (2022). UTILIZATION OF DIGITAL MEDIA IN MARKETING GAYO ARABICA COFFEE. *IRPITAGE JOURNAL*, 2(3), 103–108. <https://doi.org/10.54443/irpitage.v2i3.467>.
- Sinurat, M. ., Heikal, M. ., Simanjuntak, A. ., Siahaan, R. ., & Nur Ilham, R. . (2021). PRODUCT QUALITY ON CONSUMER PURCHASE INTEREST WITH CUSTOMER SATISFACTION AS A VARIABLE INTERVENING IN BLACK ONLINE STORE HIGH CLICK MARKET: Case Study on Customers of the Tebing Tinggi Black Market Online Store. *MORFAI JOURNAL*, 1(1), 13–21. <https://doi.org/10.54443/morfai.v1i1.12>.
- Sondang P Siagian. (2012) *Teori Motivasi Dan Aplikasinya*, Jakarta: Rineka Cipta ke 2.
- Wayan Mertha, I. ., & Mahfud, M. (2022). HISTORY LEARNING BASED ON WORDWALL APPLICATIONS TO IMPROVE STUDENT LEARNING RESULTS CLASS X IPS IN MA AS'ADIYAH KETAPANG. *International Journal of Educational Review, Law And Social Sciences (IJERLAS)*, 2(5), 507–612. <https://doi.org/10.54443/ijerlas.v2i5.369>.
- Yusuf Iis, E., Wahyuddin, W., Thoyib, A., Nur Ilham, R., & Sinta, I. (2022). THE EFFECT OF CAREER DEVELOPMENT AND WORK ENVIRONMENT ON EMPLOYEE PERFORMANCE WITH WORK MOTIVATION AS INTERVENING VARIABLE AT THE OFFICE OF AGRICULTURE AND LIVESTOCK IN ACEH. *International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration (IJEBA)*, 2(2), 227–236. <https://doi.org/10.54443/ijevas.v2i2.191>.
- Zakiyyah Husna, (2017) *Apakah ada pengaruh pendidikan kesehatan terhadap tingkat pengetahuan dan tugas kesehatan keluarga dalam mencegah penularan TB paru di wilayah kerja Puskesmas Baqa*. Poltekes Keperawatan 2017. Samarinda.
- Zulkarnaini. (2010) *Persepsi Penderita TB Paru terhadap Program DOTS dalam Pengobatan Tuberculosis Paru di Puskesmas Peureulak Aceh Timur 2010*. [Ilmu Kesehatan Masyarakat](https://doi.org/10.54443/ijevas.v2i2.191) USU 2010. Medan.