Doctor's Interpersonal Communication on the Quality of Life of Diabetes Mellitus Patients

Pimpin Tanadi, Ermi Girsang*, Sri Lestari R. Nasution and Chrismis Novalinda Ginting
Faculty of Medical, Universitas Prima Indonesia, Indonesia

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Abstract: A doctor's communication competence determines the level of success in helping the treatment of a patient's illness. Preliminary survey results show that many patients consider doctors rarely greet patients at the beginning of a consultation session, so that it has a direct impact on patients who are afraid to express their complaints. This study aims to analyze the effect of interpersonal communication in improving the quality of life of patients with diabetes mellitus. This type of research was a type of quantitative survey with a cross-sectional approach with a sample of 60 respondents. The variables included in the study were openness, empathy, supportive attitude, positive attitude, equality, and quality of life of patients. Data were analyzed using chi-square test and logistic regression test. The results showed that the variables that influence the improvement of the quality of life of patients with diabetes mellitus on average around 55 - 72%. These results indicate that the quality of doctor communication still needs to be improved. This improvement is expected to be able to improve the quality of life of DM patients who are currently still around 43.3%.

1 INTRODUCTION

Diabetes mellitus is currently increasing in number and is one of the world's health problems including in Indonesia. The International Diabetes Federation (IDF) reports that currently, around 425 million adults (20-79 years old) are living with diabetes mellitus, and by 2045 it is expected to increase to 629 million. The proportion of people with type 2 diabetes mellitus increased by 79% in adults living in low and middle income countries. In addition IDF also said that more than 1,106,500 children live with type 1 diabetes mellitus and more than 21 million live births (1 in 7 births) are affected by diabetes mellitus during pregnancy. Diabetes mellitus also causes at least 727 billion dollars for health expenditure in 2017 or 12% of total expenditure for adults (Cho, 2018).

Some data about diabetes mellitus in Indonesia is also quite astonishing. In 2017 Indonesia was ranked 5th for the country with the highest number of people with diabetes mellitus in the world with 114,069 fatalities (International Diabetes Federation, 2017). In addition, Basic Health Research (Riskesdas) in 2007 and 2013 also conducted interviews to calculate the proportion of diabetes mellitus at the age of 15 years and over. Defined as a person with diabetes mellitus if a doctor has been diagnosed with diabetes or has never been diagnosed with diabetes by a doctor but in the last 1 month experiencing symptoms of frequent hunger, frequent thirst, frequent urination with large amounts and weight loss. The results of the interview found that the proportion of diabetes mellitus at Riskesdas 2013 almost doubled compared to 2007. For North Sumatra province itself the proportion of diabetes mellitus also increased, in 2013 the number of people with diabetes mellitus diagnosed by doctors reached 160,913 people (Ministry of Health, Republic of Indonesia, 2014).

Management and control of chronic diseases such as diabetes mellitus is very important because of the dangerous complications, as well as a large economic burden if the disease is not controlled. The role of health workers and doctors in helping patients with diabetes mellitus control their blood sugar is very important because this is a chronic disease (Masriadi, 2016). In diabetes mellitus, basically the real doctor is the patient himself. The patient determines when he should seek treatment, when to check blood sugar levels or how to regulate diet. Therefore, diabetic patients really need the figure of a friend to manage the disease through a doctor.

According to the Law of No. 29/2004 concerning Medical Practice, doctors, specialists, doctors, specialists, dentists and specialist dentists have

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graduated from medical or dental education, both domestically and abroad, which are recognized by the Government of the Republic of Indonesia in accordance with statutory regulations. In the medical profession, doctor and patient communication is one of the competencies that must be mastered by doctors. The communication competence determines success in helping treat a patient's illness. During this time, the communication competence of a doctor can be said to be often overlooked.

In Indonesia, some doctors feel they don't have enough time to talk with their patients, so they can only ask as needed. This causes the doctors tend not to get enough information to establish the diagnosis and determine further planning and action. While in terms of the patient himself, patients generally feel in a lower position before the doctor (superior-inferior), so that the patient is feel afraid to ask questions and tell stories or just answer according to doctors' questions (Foursanalitywati, 2015; Turnip et al, 2020).

In general, the definition of communication is the process of delivering ideas, hopes and messages conveyed through certain symbols that contain meaning carried out by the messenger addressed to the recipient of the message. The application of the definition of communication in the interaction between doctor and patient is interpreted as the achievement of understanding and agreement that is built by the doctor with the patient at each step in solving the patient's problem (Adriyani, 2018; Wijaya et al, 2019).

Kurzt (1998) suggests two approaches about communication in the field of medicine. First is the disease centered communication style or doctor centered communication style, where communication is based on the doctor's interest in trying to establish a diagnosis, including investigation and clinical reasoning about signs and symptoms. The second approach is an illness centered communication style or patient centered communication style, where communication is based on what the patient feels about his illness which individually unique experience. The aim is to create comfort and satisfaction for both parties to create effective communication between doctors and patients (Kurtz, 1998).

A doctor's communication ability to have good communication skills with his patients has different goals. There are three types of goals for the doctor's communication with his patient, namely, creating good interpersonal relationships, exchanging information, and making medical decisions. The goals that are considered the most important in solving patient's health problems especially in patients with chronic diseases such as diabetes mellitus that is creating good interpersonal and communicative relationships will have a positive impact on patients such as the realization of patient knowledge and understanding, adherence to medication and measurable health outcomes (Konsil) Indonesian Medicine, 2006). In building good interpersonal relationships, it takes important elements, namely intimacy, attention, lack of tension, and non-verbal expressions from doctors and patients. In particular, good doctor and patient interpersonal relationships will increase when the context of the doctor's communication capabilities with patients takes place with doctor friendliness, courtesy behavior, social behavior and empathy behavior during consultation (Larasati, 2019).

The results of the initial survey of several patients who were willing to be interviewed found that many patients considered doctors rarely greet patients at the beginning of a consultation session, so this had an impact on patients who were afraid to express their complaints. Similarly, doctors do not provide opportunities for patients to ask questions. The average patient complains of not having enough courage to ask about his illness in detail, so that in the end it only follows the direction of the doctor. The same applies to patients' complaints that doctors feel less empathetic, such as eye contact with patients during consultation sessions, or doctors who are reluctant to touch in the sense of shaking hands with patients. Yet through empathy with small things like that, could be one of the factors that foster a sense of trust in others. This study aims to analyze the effect of interpersonal communication in improving the quality of life of patients with diabetes mellitus.

Many patients with chronic diseases such as diabetes mellitus have difficulty achieving optimal blood glucose control, communication by medical personnel plays an important role in supporting patient health. Medical personnel may be more successful when providing behavioral change counseling based on psychological principles of self-regulation, for example, setting goals, achieving additional performance, and planning actions in managing diabetes (Mulder, 2017).

Based on the review above, researchers feel that until now there has been no research that examines the effect of doctor communication on the quality of life of patients with chronic diseases such as diabetes mellitus. So in this study will summarize in detail about how much impact the doctor's communication in improving the quality of life of patients with diabetes mellitus, and what communication factors

influence the improvement of the quality of life of patients with diabetes mellitus itself.

2 METHOD

The type of research used in this study was a quantitative survey using a cross-sectional approach. The study was conducted at Dr. R.M. Djoelham City of Binjai, which began in July-September 2019. The population was all DM patients who were hospitalized. From the medical records of general inpatients there were 157 people and using an accidental sampling technique, 60 respondents were selected with criteria must be DM patients who routinely undergo treatment / therapy more than once as evidenced by medical records. In addition, thepatients must be able to communicate well (can read and write), be willing to be a respondent.

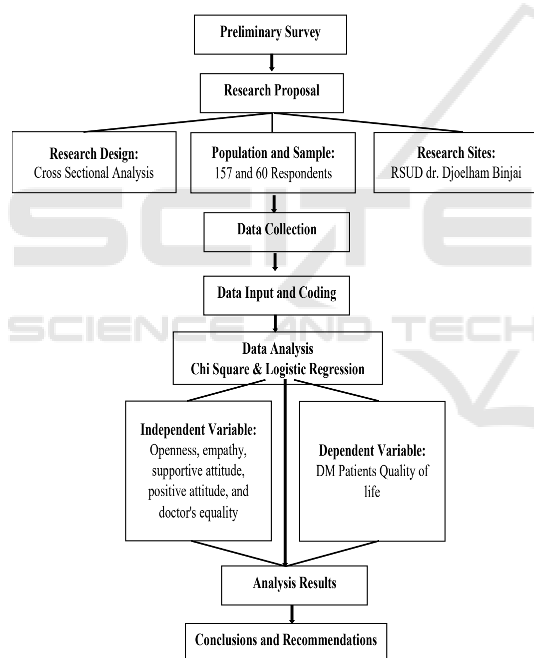

Figure1. Scheme of Research Process

Primary data were directly obtained through interviews with respondents who were undergoing DM treatment. Primary data include respondent characteristics, doctor communication variables (doctor's openness, doctor's empathy, doctor's supporting attitude, doctor's positive attitude and doctor's equality) and DM patients' quality of life variables. Interviews were conducted based on a questionnaire that had previously been tested for validity and reliability. The doctor communication variable contained 23 question items and 14 question items for the variable quality of life of doctor patients. Measurement results of the questionnaire using the Guttman scale. The scale developed by Louis Guttman is a scale that requires firm answers from respondents, such as yes or no, true or false, ever or never, and others. Evaluation of answers on the Guttman scale, for a positive answer or yes given a score of 1, while for a negative answer or not given a score of 0. To anticipate the results of measurements that are not absolute 100% or 0%, the researchers used a range of percentage scale. The percentage range in this study is <70% which means no role and> 70% is meant to play a role. The results of the questionnaire were then analyzed using the chi-square test to see the relationship between the independent variables and the dependent variable. Followed by logistic regression tests to see the effect of the entire independent variable on the dependent. The research procedure can be seen in Figure 1.

3 RESULTS

3.1 Validity and Reliability Analysis

Primary data were obtained directly through interviews with respondents who were undergoing DM treatment. Primary data include respondent characteristics, doctor communication variables (doctor's openness, doctor's empathy, doctor's supporting attitude, doctor's positive attitude and doctor's equality) and DM patients' quality of life variables. Interviews were conducted based on a questionnaire that had previously been tested for validity and reliability. The doctor communication variable contained 23 question items and 14 question items for the variable quality of life of doctor patients.

Measurement results of the questionnaire using the Guttman scale. The scale developed by Louis Guttman is a scale that validity test is done using the Pearson correlation method (Pearson Correlation) where a question item can be said to be valid if the product moment correlation coefficient value is greater than the r table. From the test results of 25 questions for the doctor communication variable, 23 items were declared as valid statements, while the remaining 2 question items were invalid. In 14 items the statement of quality of life of DM patients was declared valid. Furthermore, the reliability measurement uses Cronbach's Alpha as a reference, where if it is greater than 0.600 then the variable is declared valid. The test results show the Cronbach's Alpha value of the doctor communication variable

and the quality of life of DM patients has a value > 0.6, which means that each variable was reliable.

Table 1. Characteristics of Respondents

No	Characteristics	n	%
1	**Sex**		
	Female	48	80,0
	Male	12	20,0
2	**Age**		
	≤40 years old	4	6,7
	>40 years old	56	93,3
3	**Level of education**		
	High School	36	60,0
	College	24	40,0
4	**Type of work**		
	Government employees	11	18,3
	Entrepreneur	15	25,0
	Housewife	10	16,7
	Other types of work	24	40,0
5	**Income**		
	≤ Rp. 3.000.000	8	13,3
	> Rp. 3.000.000	52	86,7

Table 1 shows frequency distribution of respondent characteristics based on demographic data which includes gender, age, education, occupation and income. The characteristics of respondents consists of 60 observed respondents, the majority of respondents were female of 48 people (58.5%), aged> 40 years there were 56 people (93.3%), SLTA 36 people (60,0%), there were 24 other types of work (40.0%), with income> Rp. 3,000,000 there were 52 people (86.7%).

3.2 Assessment Doctor's Interpersonal Communication

Based on the results of the questionnaire assessment on doctor's interpersonal communication indicators, showed that of the 82 respondents, the majority of respondents rated physician openness as good (63.3%), the empathy of the doctor was good (68.3%), the attitude of supporting the doctor was good (71.7%), the positive attitude of the doctor was good (63.3%), and the doctor's openness was also categorized as good (55.0%). The results of questionnaire measurements can be briefly seen in Figure 1.

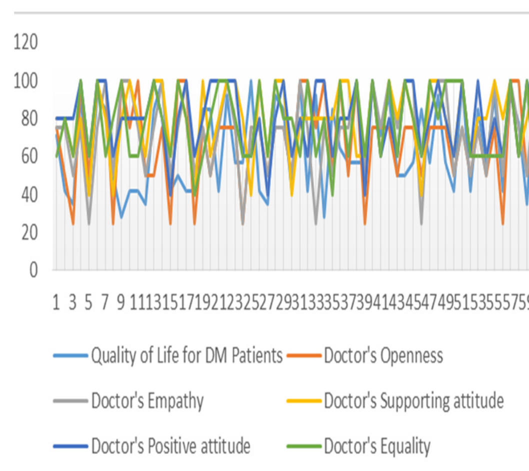

Figure 1 Measurement results of the questionnair

3.3 Chi Square Analysis

Table 2 shows the cross tabulation between the independent and dependent variables. It is known that based on the doctor's interpersonal communication, the majority of patients consider doctors to be good enough to serve diabetic patients. This can be seen from several communication indicators such as openness of doctors who are considered good (63.3%), empathy of a good doctor (68.3%), good doctor supportive attitude (71.7%), good doctor's positive attitude (63.3%) and doctor's equality with patients who are also good (55.0%). Furthermore, from the results of the chi square analysis it is known that only the variables of physician openness and doctor empathy have a value of p <α, it can be concluded that only physician openness and empathy are related to the quality of life of patients with diabetes mellitus and can proceed to further analysis. Whereas the variables of supportive attitude, positive attitude and equality have a value of p> α, so it was concluded not having a significant relationship with the quality of life of patients with diabetes mellitus. In the results of the analysis with chi square it was known that only the variables of physician openness and doctor empathy have a value of p <α, it can be concluded that there was a significant relationship between openness and empathy variables with the quality of life of DM patients. While the variables of supportive attitude, positive attitude and equality have a value of p> α, it can be concluded that there was no significant relationship between the variables of supportive attitude, positive attitude and equality with the quality of life of DM patients. More details can be seen in Table 2.

Table 2. Chi square analysis results

	Quality of Life for DM Patients				*p-value*
	Good		Not good		
	n	**%**	**n**	**%**	
Doctor's openness					
Good	22	57,9	16	42,1	0,003
Not good	4	18,2	18	81,8	
Empathy the doctor					
Good	22	53,7	19	46,3	0,025
Not good	4	21,1	15	78,9	
Attitude supports					
Good	21	48,8	22	51,2	0,249
Not good	5	29,4	12	70,6	
Positive attitude					
Good	21	51,2	20	48,8	0,095
Not good	5	26,3	14	73,7	
Equality					
Good	13	39,4	20	60,6	0,603
Not good	13	48,1	14	51,9	

In the results of the analysis with chi square it was known that only the variables of physician openness and doctor empathy have a value of p <α, it can be concluded that there was a significant relationship between openness and empathy variables with the quality of life of DM patients. While the variables of supportive attitude, positive attitude and equality have a value of p> α, it can be concluded that there was no significant relationship between the variables of supportive attitude, positive attitude and equality with the quality of life of DM patients.

3.4 Logistic Regression Analysis

Based on the candidate test results with chi square obtained the results of the independent variables openness, empathy, supportive attitude and positive attitude have a p value <0.25. It can be concluded that the independent variables of openness, empathy, supportive attitude and positive attitude can be continued to multivariate logistic regression analysis. Multivariate analysis used is multiple logistic regression analysis with prediction models that aim to obtain a model consisting of several independent variables that are considered best for predicting the occurrence of the dependent variable. Variables that are considered influential in the multivariate model are variables that have p values <0.05.

In Table 3 shows the final model of the influence of the variables openness and empathy) on improving the quality of life of DM patients. The analysis showed that the variables of physician's openness and empathy had p value <0.05. This means that only the two independent variables have a significant effect on improving the quality of life of DM patients.

Table 3. Multivariate final model

Variable	**B**	**S.E**	**Wald**	**Df**	**p *value***	**OR**
Openness	0,271	0,041	3,711	1	0,006	3,501
Empathy	0,320	0,136	5,292	1	0,001	4,520

Predictions of improving the quality of life of DM patients affected by openness and empathy can be explained as follows: in physicians' openness the regression coefficient (β) or OR was positive, meaning that the better the doctor's openness was likely to improve the quality of life of DM patients by 3,501 times higher when compared with doctor's openness that was not good. In the doctor's empathy variable the value of the regression coefficient (OR) or OR was positive, meaning that the better the empathy of the doctor has the opportunity to improve the quality of life of DM patients about 4,520 times higher when compared to the poor quality of life.

4 DISCUSSION

One element that will bring good relations between doctors and patients is openness in communication. In the element of openness, the doctor has the full duty of making the patient believe in the services provided by the doctor, so that the patient wants to open himself honestly on the condition of his illness. The effect of interpersonal communication between doctor and diabetic patient which is seen from openness starts from the interaction between doctor and patient providing information about the patient's health condition, about the procedure that the patient must undergo during diabetes treatment and about service facilities. Besides that, the doctor also provides an explanation and understanding of the benefits of treatment to patients during the consultation session.

In the hospital studied, researchers saw that interpersonal communication made by doctors while conducting therapy was effective. Even under certain conditions, some patients are still reluctant to give an immediate description of their physical health.

According to several doctors interviewed, even though it looks difficult, patient openness is needed in the management of diabetes. Where there must be a willingness to open up and reveal hidden information such as being honest in terms of diet, physical activity carried out up to taking medication regularly. This is supported by the opinion of Claramita (2013) who revealed that regardless of the level of education, the form of communication that is highly desired by many patients in Indonesia is more open communication with their doctors.

Another aspect of interpersonal communication that also plays a role in improving the quality of life of diabetic patients is empathy from the doctor. Empathy is one's ability to "know" what other people are experiencing at any given moment, from that other person's point of view. In the case of diabetes, the empathy aspect is seen from the situation where the doctor feels something like that experienced by his patient. Empathic doctors are able to understand the motivation and experience, feelings and attitudes of patients, as well as the hopes and desires of patients for the future.

Based on the findings and analysis, researchers see that most patients feel very satisfied with the empathy of the doctor who handles the treatment. This can be seen by doctors intensely asking patient complaints, paying attention to patients, and understanding how they feel. Many diabetic patients feel happy because they have the opportunity to discuss their health problems. Patients feel given the right to speak and get involved in their treatment. Some patients even revealed that the main reason for choosing the same hospital for their treatment was satisfaction with the doctor's empathy when serving their patients.

Ideas related to the development of physician empathy for patients have previously been carried out in a variety of different conditions as in the research of Hussain (2020), revealing the motivational interview method and promoting in-depth understanding related to health management for long-term conditions to patients can provide better results. Basically, a very high level of patient satisfaction will arise if the doctor understands and responds to what the patient feels. The maximum level of empathy can result in patient openness, and can even help the doctor penetrate into the patient's soul where no other treatment can achieve it, in other words empathy is the most powerful therapeutic tool for diabetic patients to improve their quality of life.

5 CONCLUSIONS

Based on the findings and analysis, it was found that both physician communication and the quality of life of DM patients studied were in the majority in the good category. On the openness variable of doctors, 38 people (63.3%) rated good, 41 people (68.3%) rated the variables of empathy and positive attitude of good doctors, 43 people (71.7%) rated the attitude of supporting physicians as good, 33 people (55.0%) rated the doctor's openness variable as good and as many as 26 people (43.3%) rated the quality of life of DM patients to be good.

Furthermore, it can be concluded that the variables that influence the improvement of the quality of life of DM patients were physician openness (p value = 0.006 <α), and doctor empathy (p value = 0.001 <α). While attitudes supporting physician variables (p value = 0,150> α), positive doctor attitudes (p value = 0,421> α), and physician equality (p value = 0,310> α) have no effect on improving the quality of life of DM patients.

REFERENCES

Adriyani S., 2018. *Buku Ajar Komunikasi Dalam Keperawatan*. Bandung: PT Refika Aditama,.

Beverly, Elizabeth A., PhD., 2018. *Patient-Doctor Communication and Diabetes Self-Care*; *Journal of Clinical Outcomes Management*. 2018 November;23 (11). Diakses pada 26 April 2020.

Cho NH, Shaw JE, Karuranga S, et al. IDF Diabetes Atlas: Global estimates of diabetes prevalence for 2017 and projections for 2045. *Diabetes Res Clin Pract* 2018; 138: 271–281.

Claramita, Mora. *Doctor–patient communication in Southeast Asia: a different culture*. Adv in Health Sci Educ (2013) 18:15–31, DOI 10.1007/s10459-012-9352-5.

Farah A. 2019. Effects *of Doctor Interpersonal Communication on Low Satisfaction Levels of Inpatients;* Jurnal Komunikasi: Malaysian Journal of Communication 35(1):57-70DOI: 10.17576/JKMJC-2019-3501-05 Project: Communication apprehension Among Tourism and Social Science Students. Diakses pada 25 April 2020.

Firdous J and S. Hiba. 2019. *Good communication between doctor and patient improves health outcomes*; EJMED, European Journal of Medical and Health Sciences Vol. 1, No. 4, October 2019. Diakses pada 26 April 2020.

Fourianalistyawati E. Komunikasi Yang Relevan Dan Efektif Antara Dokter Dan Pasien. *J Psikogenes* 2015; 1: 82–87.

Hussain, Saad, Mir. Role of Health Literacy and Motivational Interviewing in Building Insight for Self-management of Diabetes Mellitus. World Family

Medicine/Middle East Journal Of Family Medicine Volume 18 Issue 2 February 2020. Diakses pada 16 Juni 2020.

Jalil Aisha, Rubeena Zakar, Muhammad Zakria Zakar3 and Florian Fischer. 2017. *Patient satisfaction with doctor-patient interaction: study of mixed methods among patients with diabetes mellitus in Pakistan*; BMC Health Services Research (2017) 17:155. DOI 10.1186/s12913-017-2094-6. Diakses pada 25 April 2020.

Junaid, A., & Rafi, M. 2019. *Communication Barriers Between Doctors, Nurses and Patients in Medical Consultans at Hospitals of Lahore Pakestan. Pakistan Armed Forces Medical Journal*, *69*(3), 560-65. https://www.pafmj.org /index.php/PAFMJ/article/view/ 3027. Diakses pada 25 April 2020.

Kementerian Kesehatan. *Info Datin: Situasi dan Analisis Diabetes*. Jakarta, 2014.

Kholil Syukur, Lahmuddin Lubis, Syafruddin Ritonga. 2019. *Implementation of Communication Therapy at Dr. Hospital Pirngadi*; Budapest International Research and Critics Institute-Journal (BIRCI-Journal) Volume 2, No 4, November 2019, Page: 645-656 e-ISSN: 2615-3076 (Online), p-ISSN: 2615-1715 (Print).DOI: https://doi.org/_10.33258/birci. v2i4.673. Diakses pada 26 April 2020.

Konsil Kedokteran Indonesia. *Komunikasi Efektif Dokter-Pasien*. 2006.

Kurtz S, Draper J, Silverman J. *Teaching and Learning Communication Skills in Medicine*. Oxon: Radcliffe Medical Press, 1998.

Larasati TA. Komunikasi Dokter-Pasien Berfokus Pasien pada Pelayanan Kesehatan Primer Patient Centered Communication in Primary Care. *J Kedokt Univ Lampung* 2019; 3: 160–166.

Masriadi. *Epidemiologi Penyakit Tidak Menular*. Jakarta: Trans Info Media, 2016.

Mulder C, Anne Marike Lokhorst. 2017. *Effective Nurse Communication with Type 2 Diabetes Patients: An Overview*; Western Journal of Nursing Research. DOI: 10.1177/0193945914531077. Diakses pada 25 April 2020.

Passaribu B. 2019. *Effect of Doctor's Interpersonal Communication on Patient Satisfaction at Royal Prima General Hospital Medan*; International Journal of Research & Review (www.ijrrjournal.com) 164 Vol.6; Issue: 11; November 2019. Diakses pada 25 April 2020.

Pemerintah Republik Indonesia. Undang-Undang Nomor 29 Tahun 2004 Tentang Praktik Kedokteran. 2004.

Sarah. 2020. *Impact of Communication in Health Care*; Institute for Healthcare Communication. Diakses pada 26 April 2020.

Susan C, Baker. Bernadette M, Watson. 2018. *How Patients Understand Their Doctor's Communication: Implications for Patients'* Willingness to Communicate; Journal of Language and Social Psychology. https://doi.org/10.1177/0261927X15587015. Diakses pada 25 April 2020.

Tanveer Fahad, Sana Shahid2, Muhammad Mansoor Hafeez. 2018. *Impact of Doctor's Interpersonal Communication Skills on Patient Satisfaction*; Isra Medical Journal | Volume 10 - Issue 5 | Sep–Oct 2018. Diakses pada 26 April 2020.

Trinth Daniel. 2019. *Trust Factors: The Role of Interpersonal Communication and Physical Touch in the Patient Physician Relationship*. Thesis. Honors Baccalaureate of Science in Biochemistry & Molecular Biology. Diakses pada 26 April 2020.

Turnip, A., Andrian, Turnip, M., Dharma, A., Paninsari, D., Nababan, T., Ginting, C.N., 2020. *An application of modified filter algorithm fetal electrocardiogram signals with various subjects*, International Journal of Artificial Intelligence, vol. 18, no., 2020.

Wijaya, C., Andrian, M., Harahap, M., Turnip, A., 2019. *Abnormalities State Detection from P-Wave, QRS Complex, and T-Wave in Noisy ECG*, Journal of Physics: Conference Series, Volume 1230, (2019) 012015. doi:10.1088/1742-6596/1230/1/012015.

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