



FACTORS RELATED TO DURATION AND INTERACTION OF DOCTOR-PATIENT COMMUNICATION AT DIPONEGORO NATIONAL HOSPITAL

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ABSTRACT

Background: Doctor-patient communication is an important foundation in the process of diagnosis, therapy, and prevention of disease. Communication has been a challenge for most doctors. The doctor's willingness to provide sufficient time is needed to establish good interaction and communication between the doctor and the patient. **Aim:** To determine what factors are related to the duration and interaction of communication between doctors and patients at Diponegoro National Hospital (RSND) Semarang. **Methods:** Research subjects using analytic survey research designs, with quantitative approaches and cross-sectional research designs. The sample of this study was 80 patients who came to internal, neurological, pediatric, and cardiovascular polyclinics RSND Semarang. The independent variables were factors related to doctor-patient communication (number of patients, type of patients, complexity of the disease, and qualifications of specialist doctors). The dependent variable was doctor-patient communication (duration and communication interaction at RSND Semarang). **Results:** Most of the respondents (72.5%) experienced < 8 minutes of communication. The number of patients, type of patients (old/new), and qualifications of specialist doctors (internists, neurologists, pediatricians, and cardiologists) were statistically related to the duration of communication ($p < 0.005$). Meanwhile, the complexity of the disease was not statistically related to the duration of doctor-patient communication ($p = 0,416$). There was a relationship between the number of patients, type of patients (old/new), and qualifications of specialist doctors to the communication interaction of doctor-patient ($p < 0.005$). On the contrary, there is no relationship between the complexity of the disease and the communication interaction between the doctor and patient ($p = 0,324$). **Conclusion:** Factors related to the duration and communication interaction between doctor and patient at RSND Semarang are the number of patients, type of patients, and qualifications of specialist doctors.

Keywords: *Duration, interaction, communication, doctor-patient*

INTRODUCTION

Effective doctor-patient communication is the development of an effective doctor-patient relationship that occurs efficiently, with the main objective of conveying information or providing the necessary explanations to build cooperation between doctors and patients. According to the Indonesian Medical Council (Konsil Kedokteran Indonesia, 2006) regarding doctor-patient communication, it is explained that doctor-patient communication is the relationship that occurs between doctors and patients during the examination/treatment/treatment process that occurs in individual practice rooms, clinics, hospitals, and health centers to solve patient health problems.^{1,2}

In Indonesia, some doctors feel that they do not have enough time to talk with their patients, so doctors only give short questions, ask only as needed, and do the physical examination as short as possible.³ As a result, doctors do not get enough information to diagnose and determine planning and further action for the patient. This is what makes patients complain about the lack of doctor service time in doctor-patient interactions to explain and provide information about disease, medical therapy (drugs), and non-medical therapy (education,

intervention) given and delivered to patients.⁴

The doctor's willingness to provide sufficient time is needed to establish good doctor-patient communication. Patients will feel reluctant to communicate well with doctors who are always busy, seem to be in a hurry, and are reluctant to communicate.⁵ In some busy settings, the consultation time is often only 5 to 10 minutes. In a clinic that is not too busy, patients get the opportunity to consult for about 30 minutes, even a psychiatrist provides up to one hour for each patient. In private services in the United States, the average doctor-patient consultation length is 18 minutes.⁶

Based on this background, one main problem can be formulated, namely: What factors are related to the duration and communication interactions between doctors and patients? The results of this study aim to determine what factors are related to the length and interaction of communication between doctors and patients at the Diponegoro National Hospital (RSND) Semarang.



Krisye Refertiwi, Teddy wahyu Nugroho, Saekhol Bakri, Diah Rahayu Wulandari, Firdaus Wahyudi

METHODS

This study is an analytic observational study with a quantitative approach and cross-sectional research design, being held from September 2019 to February 2020. The subjects of the study were 80 patients who came to internal medicine, neurological, pediatric, and cardiovascular clinics at RSND Semarang. The inclusion criteria for the study sample were doctors and patients who were willing to take part in the study by signing an informed consent form and patients who came to the clinic of internal medicine, neurological, pediatric, and cardiovascular disease at RSND Semarang. Meanwhile, the exclusion criteria were patients whose physical condition did not allow observation in doctor-patient communication.

Independent variables were factors related to doctor-patient communication (number of patients, type of patients, complexity of patient disease, and qualifications of specialist doctors).

The dependent variable was doctor-patient communication (duration of communication and communication interaction at RSND Semarang). To assess communication interactions, a checklist of 31 items was used. The stopwatch is used to calculate the length of doctor-patient communication in minutes.

Data analysis was done using statistical software on a computer and carried out 2 kinds of data analysis; univariate analysis and bivariate analysis. Statistical tests used were Kruskal Wallis, Mann-Whitney, Chi-Square, Fisher Exact, and Rank Spearman. The test results are statistically significant if the value of $p \leq \alpha$ ($p \leq 0.05$), using SPSS software series 22.

RESULTS

Subject characteristics data are shown in Table 1.

Table 1. Subject's characteristics

Variable	N	%	Mean \pm SD	Median (min – max)
Specialists				
Internists	6	31.6		
Neurologists	3	15.8		
Pediatricians	6	31.6		
Cardiologists	4	21.1		
Total patients			14.74 \pm 12.17	13 (2 – 48)
Type of patients				
Old patients	68	85.0		
New patients	12	15.0		
Complexity of the disease				
\leq 2 diagnoses	58	72.5		
$>$ 2 diagnoses	22	27.5		
Communication durations			8.09 \pm 8.74	5.44 (1.42 – 60)
$<$ 8 minutes	58	72.5		
\geq 8 minutes	22	27.5		
Interactions			27.03 \pm 3.04	28 (18 – 30)

The results of the study in Table 1 show that most of the respondents obtained in this study were old patients with a total of 68 people (85%). The patient disease complexity variable found the most disease complexity in the \leq 2 diagnosis group as many as 58 people (72.5%). Most of the length of communication between doctors and patients was $<$ 8 minutes, in 58 respondents (72.5%). The mean of the number of patients is 14.74 ± 12.17 and the median value is 13 (2 – 48), the mean duration of communication is $8.09 \pm$

8.74 and the median value is 5.44 (1.42 – 60) and the mean of communication interactions is 27.03 ± 3.04 and a median value of 28 (18 – 30).

The relationship between the number of patients, the type of patient, the complexity of the disease, and the qualifications of the doctor with the length of doctor-patient communication are presented in Table 2.



Krisye Refertiwi, Teddy wahyu Nugroho, Saekhol Bakri, Diah Rahayu Wulandari, Firdaus Wahyudi

Table 2. The relationship between the number of patients, the type of patient, the complexity of the disease, and the qualifications of the doctor with the length of the doctor-patient communication

Number of Patient	Durations				P value
	< 8 mins		≥ 8 mins		
	N	%	N	%	
1-10	17	60.7	11	39.3	0.000
11-20	17	63.3	10	37.0	
21-30	9	100.0	0	0.0	
31-40	5	83.3	1	16.7	
41-50	10	100.0	0	0.0	
Type of Patients					
Old patients	53	77.9	15	22.1	0.015
New patients	5	41.7	7	58.3	
Complexity of The Disease					
≤ 2 diagnoses	44	75.9	14	24.1	0.416
> 2 diagnoses	14	63.6	8	36.4	
Doctor's qualifications					
Internal medicine	11	55.0	9	45.0	0.006
Neurological	18	90.0	2	10.0	
Pediatric	11	55.0	9	45.0	
Cardiovascular	18	90.0	2	10.0	

From the table above, the variables of the number of patients, the type of patient, and the qualifications of doctors statistically had a relationship with the length of doctor-patient communication (p-value < 0.05). Meanwhile, the disease complexity variable did not have a relationship with the duration of doctor-patient communication (p-value > 0.05).

There were some differences in communication interactions based on patient type, disease complexity, and doctor qualifications. Different tests were performed using the Kruskal-Wallis test. The test results are presented in Table 3.

Table 3. Differences in Communication Interactions based on the type of Patients, Complexity of the Diseases, and Doctor Qualifications

Variables	Interactions communication		P
	Mean ± SD	Median (min – max)	
Type of Patients			
Old patients	26.72 ± 3.19	28 (18 – 29)	0.001
New patients	28.75 ± 0.87	28.5 (28 – 30)	
Complexity of The Diseases			
≤ 2 diagnoses	26.84 ± 3.17	28 (18 – 30)	0.324
> 2 diagnoses	27.50 ± 2.69	28 (19 – 30)	
Doctor's Qualifications			
Internal medicine	28.15 ± 0.37	28 (28 – 29)	0.000
Neurological	24.40 ± 4.25	28 (19 – 29)	
Pediatric	28.45 ± 0.76	28 (27 – 30)	

In Table 3 there was a relationship between the type of patients and the qualifications of the doctor with the doctor-patient communication interaction (p-value < 0.05). Meanwhile, the complexity of the disease had no relationship with doctor-patient communication interactions (p-value > 0.05).

DISCUSSION

In this study, the characteristics of the length of communication between doctors and patients were mostly obtained at the length of < 8 minutes. This is to previous research, that the average duration of communication is < 8 minutes.⁵ The duration of communication obtained the mean ± SD value is 8.09 ± 8.74 and the median value is 5.44 (1.42 – 60) and in communication interactions, the mean ± SD value is 27.03 ± 3.04 and the median value is 28 (18 – 30).

The findings above show that the number of patients has an impact on the length of doctor-patient communication. The more patients who come to ask for medical services, the shorter the duration of doctor-patient communication. In contrast, the fewer patients, the longer the duration of doctor-patient communication. The minimum duration of time for doctors is also confirmed by the Indonesian Medical Council that the average doctor in Indonesia feels they do not have enough time to talk with their patients.¹ However, doctors are expected to be able to hold the principles of professional values to provide the best service to patients.^{1, 4, 5, 7}

The results showed that there was a relationship between the type of patient and the length of communication (p = 0.015). Old and new patients determine the length of doctor-patient communication. In this study, we found that 68 old patients, mostly communicated with doctors in < 8 minutes (77.9%). Among the 12 new patients, they communicated more with doctors in ≥ 8 minutes (58.3%).

The duration of doctor-patient communication is determined by the type of patient treated. If the patient is long, the duration of communication is < 8 minutes, but if the patient is new, the duration of communication is ≥ 8 minutes. This is very normative considering that the patient has a history of illness for a long time so a doctor only needs to look at the graph of the progress of illness and what next steps should be taken to recover from his disease, so the duration required for communication is relatively less than in new patients.

Based on the data analysis, there was no difference in the length of communication based on the complexity of the disease (p = 0.416). Among the 58 patients with a diagnosis of ≤ 2 types of disease, mostly communicated



Krisye Refertiwi, Teddy wahyu Nugroho, Saekhol Bakri, Diah Rahayu Wulandari, Firdaus Wahyudi

with doctors in < 8 minutes (75.9%), compared with those with ≥ 8 minutes (24.1%). Among 22 people with a diagnosis of > 2 types of disease, mostly communicated with doctors in the category < 8 minutes (63.6%), compared with those with ≥ 8 minutes (36.4%). Based on the data above, it can be concluded that the amount of illness suffered by the patient does not determine the duration of doctor-patient communication.

According to the results of the data analysis, there was a relationship between the qualifications of doctors and the length of communication (p -value = 0.000). Among each doctor with qualifications of internal medicine, neurological, pediatric, and cardiovascular, of all these specialist doctors more doctors who communicate with patient's category < 8 minutes. Doctors who had a higher percentage of communication in < 8 minutes were neurologists and cardiologists, while doctors who had a lesser percentage ratio of communication between the categories < 8 minutes and ≥ 8 minutes were internal medicine doctors and pediatricians. Neurologists and cardiologists make communication shorter, because neurologists and cardiologists do not have enough time to talk with their many patients while practicing, so doctors only give short questions, ask only as needed, and carry out a physical examination as short as possible.

The lack of communication between doctors and patients has also been confirmed by the Executive Board of the Indonesian Doctors Association (Pengurus Besar Ikatan Dokter Indonesia/PBIDI) that some doctors feel that they do not have enough time to chat with their patients, so they only give brief questions, ask only as needed and perform brief physical examinations, as quickly as possible.⁸

The findings above stated that specialist doctors in internal medicine, neurological, pediatric, and cardiovascular at RSND Semarang mostly communicate doctor-patient < 8 minutes. The ideal duration of doctor-patient communication is 8-15 minutes.^{4,9} Less than 8 minutes of communication can occur due to the large number of patients and the limited operational time of doctors and patients whose treatment controls and complaints are the same as before.

In this study, there was a negative relationship between the number of patients and communication interactions ($p = 0.000$; r count = -0.519). The higher the number of patients, the lower the quality of the doctor's communication interaction. The fewer the number of patients, the better the quality of the doctor's

communication interactions. Thus, the number of patients determines the quality of the doctor-patient communication interaction.

The results showed that there was a significant difference ($p = 0.001$) between old-patient communication interactions and new-patient communication interactions. This difference shows that there is a relationship between patient type and communication interactions. The quality of communication interactions between old patients (26.72) is lower than the quality of communication interactions with new patients (28.75).

These findings were like the length of communication between the doctor and the type of patients (old/new). This finding confirmed that the doctor-patient interaction pattern is related to the type of patient whether the patient is old or new. In the interaction process, doctors must meet at least four basic requirements in communication; greeting, opening the conversation, explaining, and reminding.¹⁰ These four elements are the minimum requirements that must be met by doctors for patients.

There was no significant relationship between disease complexity and communication interactions (0.324). The quality of patient communication interactions with the number of diagnoses ≤ 2 is similar to the quality of communication interactions between patients with the number of diagnoses > 2 .

Based on these findings, it suggested that the complexity of the patient's disease with the doctor-patient communication interaction is not significantly related. Ideally, the complexity of the patient's disease gets more attention from doctors. However, the findings showed no difference between patients with disease complexity and those without. It could happen due to doctors applying the same operational standards to all patients so that there is no difference in the way of communication interactions.

The results of the data analysis of the communication interaction quality showed that there were significant differences in all groups. There was a relationship between doctor qualifications and communication interactions ($p = 0.000$). The highest score of communication interaction was found in pediatricians with an average score of 28.45, followed by the average score for internists (28.15), then cardiologists (27.10), and finally the score for neurologists (24.40). From the results above, it can be concluded that the qualifications of doctors are related to communication interactions, or in other words, communication interactions are determined by the qualifications of doctors. So, internists and pediatricians



Krisye Refertiwi, Teddy wahyu Nugroho, Saekhol Bakri, Diah Rahayu Wulandari, Firdaus Wahyudi

have the best quality of communication interactions.

CONCLUSION

Factors related to the duration and communication interaction between doctor and patient at RSND Semarang are the number of patients, type of patients, and qualifications of specialist doctors.

ETHICAL APPROVAL

The research protocol received ethical approval from the Health Research Ethics Committee (KEPK), Faculty of Medicine, Diponegoro University with ethical clearance No. 355/EC/KEPK/FK-UNDIP/VII/2019.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

FUNDING

No specific funding was provided for this article.

AUTHOR CONTRIBUTIONS

Authorship contributions as follows: conceptualization, and methodology: KR, TWN, and SB; investigation and administration: KR and SB; validation and analysis: KR, DRW, and FW; writing—original draft preparation: KR, TWN; writing—review and editing: KR and SB; supervision: DRW and FW.

ACKNOWLEDGMENTS

This work was supported by the Faculty of Medicine, Diponegoro University, and RSND Semarang, Indonesia.

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