



## Doctor Consultation Duration on Patient Satisfaction at The Internal Medicine Outpatient Clinic

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### Abstract

Long waiting times for healthcare services are one of the causes of patient dissatisfaction. The average waiting time for patient services at the Internal Medicine outpatient clinic is 280 minutes with the average duration of a doctor's consultation being only 6 minutes. Nowadays, patients can decide for themselves whether long waiting times for short doctor consultations are worth the effort. This study aimed to determine patient satisfaction based on the duration of the doctor's consultation. This research was conducted at the Internal Medicine Clinic using a quantitative observational analytical research design with a cross-sectional data collection method using a questionnaire. The patient satisfaction questionnaire uses a 1-5 Likert scale, while the doctor consultation duration questionnaire uses actual recording in minutes. The respondents for this study were 139 respondents based on epi-info software calculations with a confidence interval of 95%, and the sampling method used consecutive sampling. The research results were analyzed using SPSS version 21 with the chi-square analysis method. The duration of the doctor consultation, with an average of 6 minutes, does not affect patient satisfaction (p-Value 0.842). There are many other factors that can influence patient satisfaction, not limited to the duration of the doctor consultation.

### Introduction

The long waiting time is one of the causes of patient dissatisfaction with healthcare providers. Long waiting time has been a persistent issue from the past to the present and into the future. Long waiting times are primarily due to healthcare providers aiming for a high number of visits but not balancing it with capacity and service capabilities (Lee *et al.*, 2020). In theory, waiting time is calculated from when a patient has registered until they receive the desired or recommended healthcare service. The actual time of service is not included in the total waiting time. There is a difference in the perception of waiting time in theory and the way patients understand it. For patients, waiting time is calculated from when they arrive at the healthcare facility until they leave. This definition is quite different from the theoretical concept of waiting time (Alarcon-

Ruiz *et al.*, 2019).

The duration of waiting time to receive healthcare service is influenced by various factors, including the type of visit (initial or follow-up), punctuality of service (on time or delayed), the type of clinic (internal medicine, dentistry, and others), the duration of doctor's consultations, diagnostic tests (if necessary), and the kind of prescription given (compounded or not). Patients visiting a health care center have different purposes and health issues, which affect the total duration of waiting time they will experience (Biya *et al.*, 2022; Li *et al.*, 2020). The duration of doctor consultations in providing healthcare services is one of the factors that affect the duration of service waiting times. There is an influence between the duration of doctor consultations and patient satisfaction and safety. Doctor consultations duration should not be too short or too long.

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The duration of doctor's consultations should be appropriate for the health issues and goals desired by the patient. A consultation that is too brief can make patients feel that the service received does not justify the time they spent waiting. On the other hand, a consultation that is too long can result in longer waiting times for service (Galvão *et al.*, 2020; Gong *et al.*, 2022; Grot *et al.*, 2023; Inoue *et al.*, 2018; Wang *et al.*, 2022) patient arrivals, queuing discipline, and physician consultation times are three key factors influencing work processes. (3).

A study conducted by Jabour (2020) has demonstrated that the duration of doctor's consultations significantly impacts the quality of service and patient satisfaction. Appropriate duration of doctor consultation can lead to high-quality service processes and more accurate diagnoses. The appropriate duration of consultation will also affect treatment outcomes, satisfaction, and perceptions of overall service quality. This study was conducted due to many complaints from patients who waited for too long to see a doctor but received very brief doctor consultations. Patients felt that the time they spent waiting was not on par with the duration of the doctor's consultation they received. The study aims to assess patient satisfaction based on the duration of doctor consultations received by patients. The doctor consultations duration in this study was obtained by tracking patients in real-time from when they entered the doctor consultation room until they left. The results of this study are expected to provide insights into the effect of duration of doctor consultation on patient satisfaction.

## Methods

This study used an observational analytics quantitative study design with a cross-sectional data collection method using questionnaires on patients in the internal medicine clinic of the Air Force Hospital Dr. Efram Harsanah Lanud Iswahyudi, Magetan, East Java. The researcher prepared two questionnaires related to doctor's consultation duration and patient satisfaction. The doctor's consultation duration questionnaire was filled out by the researcher based on actual data obtained by following the study respondents from the moment they entered the doctor's consultation room until

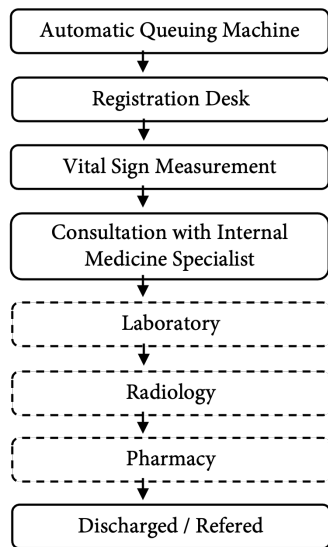
they left. The patient satisfaction questionnaire used a Likert scale from 1 to 5 and was filled out by the research respondents. This research questionnaire also included notes related to respondents' opinions, feedback, and suggestions regarding the waiting time for the internal medicine clinic service. The validity of the research questionnaire was tested using Pearson correlation analysis with a significance value of  $< 0.05$ , and its reliability was assessed using the Cronbach alpha method with a minimum alpha coefficient of  $>0.6$ . The validity and reliability tests were conducted on 30 respondents who visited the outpatient clinic of the Air Force Hospital Dr. Efram Harsana Lanud Iswahyudi and met the inclusion criteria for this study but did not visit the Internal Medicine clinic. The validity and reliability testing for the instruments in this study was necessary because the questionnaire used was based on a previous study in English that was subsequently translated into Bahasa Indonesia. The questionnaire in this study was valid and reliable, with a significance value of 0.000 for all eight questions and an alpha value of 0.868.

The sample size in this study consisted of 139 respondents, calculated using epi-info software with a 95% confidence interval and a 5% margin of error. The sampling method employed in this study was consecutive sampling based on the following inclusion criteria: 1. Patients seeking treatment in the internal medicine clinic; 2. Patients aged at least 17 years old; 3. Patients making their first or follow-up visits; 4. Patients with a minimum education level of elementary school; 5. Both male and female patients; 6. Patients using either BPJS (government health insurance) or out-of-pocket payment. This study has been ethically approved based on the Certificate from the Ethical Committee of Health Research of the Faculty of Medicine and Health Sciences of Muhammadiyah University Yogyakarta No. 118/EC-KEPK FKIK Universitas Muhammadiyah Yogyakarta/II/2023. Data analysis was conducted using SPSS Version 21 with the chi-square analysis method to determine the influence of the duration of doctor consultations on patient satisfaction. The study also performed cross-tabulation analysis to specifically determine the number

of respondents with long doctor’s consultation durations who expressed dissatisfaction, respondents with long doctor’s consultation durations who expressed satisfaction, respondents with short doctor’s consultation durations who expressed dissatisfaction, and respondents with short doctor’s consultation durations who expressed satisfaction.

**Result And Discussion**

The Internal Medicine Clinic of the Air Force Hospital Dr. Efram Harsana Lanud Iswahyudi provides services that begin with an automatic queuing machine starting at 06:00 AM. Patients then proceed to the registration desk for registration, which begins at 07:00 AM. After completing the registration process, patients will move to the waiting area of the internal medicine clinic for vital sign measurements while waiting for the internal medicine clinic to commence at 10:00 AM. The internal medicine clinic has two internal medicine specialists who alternate their practice days every week. The patient service flow at the internal medicine clinic is as follows:



[---]: Only for selected patients as indicated/recommended.

Figure 1. Internal Medicine Clinic Patient Service Flowchart

The study respondents exhibit specific characteristics. Most patients fall into the follow-up group, indicating they have previously visited the internal medicine clinic. Furthermore,

most respondents are over 46 years old, which is early elderly. The gender distribution shows a predominance of female respondents. In terms of occupation, a significant portion of the respondents are housewives and regarding their education level, most of them have completed Junior High School.

**Table 1.** Respondents Characteristics

Criteria	Number	Percentage (%)
Type of Visit		
Follow-up	117	84.2
Initial	22	15.8
Total	139	100
Patient Age		
≥46 years old	128	92.1
<46 years old	11	7.9
Total	139	100
Gender		
Male	57	41
Female	82	59
Total	139	100
Occupation		
Housewife	49	35.3
Retired	5	3.6
Farmer	30	21.6
Civil servant	4	2.9
Army	9	6.5
Entrepreneur	42	30.2
Total	139	100
Educational Level		
Elementary School	43	30.9
Junior High School	47	33.8
High School	36	25.9
University	13	9.4
Total	139	100

Source : Primary Data, 2023

The waiting time for internal medicine specialist appointments is calculated by summing the total waiting time from the registration desk until the patient is called to enter the doctor’s examination room. The service time is not included in the waiting time. Researchers followed patients who were willing to be respondents and met the inclusion criteria for this study. The waiting time at the Internal Medicine Clinic is calculated from when the patient leaves the registration queue machine until the patient enters the doctor consultation room.

Table 2. Waiting Time for Doctor Consultation

Categories	Waiting Time (Minute)	
Mean	280	
Longest duration	275	
Shortest duration	38	
Categories	Number (n)	Percentage (%)
Long	71	51.1
Short	68	48.9
Total	139	100

Source : Primary Data, 2023

Based on the data regarding waiting times to meet with a doctor, the mean waiting time for a doctor consultation is 280 minutes, with the longest duration being 275 minutes and the shortest duration being 38 minutes. The researcher categorized waiting times as long or short based on the individual respondents' waiting times compared to the average waiting time for all respondents. If a respondent's waiting time is shorter than the average time for all respondents, it is classified as "short," and if longer, it is classified as "long." Of all the respondents, 68 (48.9%) experienced short waiting times, while 71 (51.1%) experienced long waiting times.

The mean total waiting time for healthcare services at the Internal Medicine Clinic in this study is longer than in the study conducted by Harada et al (2020), which found an average total waiting time for a doctor's consultation of 74 minutes. Sianturi et al (2020) found that of 62 respondents in their study, 59.7% experienced total waiting times of more than 60 minutes only to consult a doctor. The difference in the average waiting time in this study compared to previous studies is because the outpatient service time in this study started at 10:00 AM, while patients started registering at the registration desk at 7:00 AM. There is a significant time gap between the registration desk opening and the start of service in this study location. The extensive time gap theoretically falls within the definition of waiting time. The duration of a doctor consultation was calculated from when the patient entered the consultation room until the patient left the room. During the consultation, the researcher waited outside the examination room to maintain patient privacy.

Table 3. Duration of Doctor Consultation

Categories	Duration of Doctor Consultation (Minute)	
Mean	6	
Longest duration	13	
Shortest duration	3	
Categories	Number (n)	Percentage (%)
Long	49	35.3
Short	90	64.7
Total	139	100

Source : Primary Data, 2023

In this study, the mean duration of consultations was 6 minutes, with the longest one being 13 minutes and the shortest being 3 minutes. The researcher categorized the consultation duration into long and short. Consultation duration was categorized based on each respondent's consultation duration compared to the average consultation duration of all respondents. If a respondent's consultation duration is shorter than the average consultation duration of all respondents, it is considered "short," and if it is longer, it is considered "long." As many as 90 respondents (64.7%) had short consultation durations, while 49 (35.3%) had long consultation durations. Consultation duration has a significant impact on patient satisfaction. Patients highly desire the best service, especially after waiting for an extended period. The acceptable average duration of doctor consultations are 15 minutes. Duration of Doctor's consultation that align with patients' preferences and needs are crucial for enhancing patient satisfaction (Haghgoshayie & Hasanpoor, 2021; Leow & Liew, 2022; Pockros *et al.*, 2021; Srinivas & Salah, 2021). Based on the cross-tabulation analysis of duration of the doctor consultation and patient satisfaction, in the group with a long consultation duration, 28 (20.14%) respondents expressed dissatisfaction, while 21 (15.10%) respondents expressed satisfaction. In the group with a short consultation duration, 53 (38.12%) respondents expressed dissatisfaction, while 37 (26.61%) respondents expressed satisfaction.

Table 4. Cross Tab Analysis of Duration of Doctor Consultation on Patient Satisfaction

Categories	Satisfaction Based On Duration of Consultation				Total
	Not Satisfied		Satisfied		
	Number	Percentage (%)	Number	Percentage (%)	
Duration of Consultation					
Long	28	20.14	21	15.13	49
Short	53	38.12	37	26.61	90
Total	81		58		139

Source : Primary Data, 2023

There are other factors that can influence patient satisfaction aside from the duration of doctor consultation. Patients would feel satisfied if their expectations align with what they receive during the healthcare service process (Dwi Lestari *et al.*, 2020). Short waiting times significantly impact patient satisfaction, as patients are more satisfied when the waiting time for healthcare services is brief. Conversely, patients are dissatisfied when they experience long waiting times. Every 1% increase in waiting time duration decreases patient satisfaction by 3%. The acceptable total waiting time for patients, from leaving the registration desk to completing their last required service, is  $\leq 90$  minutes (Abdus-salam *et al.*, 2021; Al-Harajin *et al.*, 2019; Alarcon-Ruiz *et al.*, 2019; Sharma *et al.*, 2022).

Several respondents provided reasons to the researcher regarding their satisfaction with short doctor consultation durations. Firstly, some of these respondents were accustomed to and frequently attended monthly check-ups, so they were used to short consultation durations. The frequency of repeat visits can influence patient satisfaction. Patients with repeat visits are more likely to feel satisfied compared to first-time visitors to a healthcare facility. Patients who regularly visit a healthcare facility are familiar with the duration, environment, and service culture at that facility, compared to patients visiting a healthcare facility for the first time (Al-Harajin *et al.*, 2019; Davis-Dao *et al.*, 2020; Sinyiza *et al.*, 2022; Tenforde *et al.*, 2020).

Secondly, respondents felt comfortable with the doctor's services, leading to satisfaction with the short duration of doctor consultations they received. The manner of communication, including speech, intonation, attitude, and behavior of the doctor when providing information and education related to the

patient's health issues, significantly influences patient satisfaction. Patients can assess and choose which doctor they want to consult to address their health problems, even if they have to wait for an extended period (Borghini *et al.*, 2019; Chandra *et al.*, 2018; De Waard *et al.*, 2018).

The researcher also received explanations from respondents with long consultation durations but feeling dissatisfied. These respondents felt dissatisfied mostly because they have had experiences with treatment in other hospitals with better service quality, leading them to compare the duration of doctor consultations in other hospitals with the one in the study location. The opinions of these respondents in this study align with the studies conducted by Homma (2018) and Qiao *et al.* (2019), which found that patients with experience in "doctor shopping" at various healthcare facilities are more likely to feel dissatisfied because they have high expectations for waiting times and the service they will receive when visiting healthcare facilities. The quality of service obtained through the doctor shopping experience has been proven to influence patient satisfaction (Molina Indarwati, 2018).

A chi-square analysis was performed to determine the effect of the duration of a doctor consultation on patient satisfaction and found that doctor consultation duration does not significantly affect patient satisfaction, with a significance value of  $>0.05$ , which is 0.842. The absence of an influence of doctor's consultation duration on patient satisfaction is due to the presence of many other factors that can affect patient satisfaction beyond waiting time. These factors can be categorized as internal and external factors. Internal factors include age, gender, education level, social life, and occupation, while external factors encompass

waiting time, the number of repeat visits to the same hospital, service etiquette, cleanliness and the extent of the facility in healthcare services, ease of access to and from healthcare facilities, and low costs (Li *et al.*, 2020; Quyen *et al.*, 2021). The results of this study align with the studies conducted by (Jabour, 2020) and (Leow & Liew, 2022) which found no influence of consultation duration on patient satisfaction. Patient satisfaction can be influenced by many factors, including age, gender, marital status, occupation, education level, clinic type, the type of disease experienced, and patient expectations before visiting a healthcare facility (Lee *et al.*, 2020). Sociodemographic conditions, health status, number of visits to healthcare facilities and comprehensive holistic services can also impact patient satisfaction, extending beyond doctor consultation duration (Leow & Liew, 2022; Wartiningih *et al.*, 2022).

### Conclusion

Patient satisfaction is not solely influenced by the duration of doctor consultations. There are other factors that may affect patient satisfaction apart from doctor's consultation duration, encompassing both internal and external factors. This study concludes that a long consultation duration does not necessarily make patients feel satisfied, and a short duration does not necessarily make patients feel dissatisfied. Further studies can be conducted to explore the internal and external factors that influence patient satisfaction and to identify the extent to which each of these factors affects patient satisfaction. This can serve as a reference for developing solutions to enhance patient satisfaction, not limited to doctor consultation duration. The results of further studies, as suggested in this study, are expected to have a positive impact on the healthcare service industry by providing insights into the influence of internal and external factors on patient satisfaction, which is crucial for the sustainability of the business.

### References

- Abdus-salam, R.A., Adeniyi, A.A., & Bello, F.A., 2021. Antenatal Clinic Waiting Time, Patient Satisfaction, and Preference for Staggered Appointment—A Cross-Sectional Study. *Journal of Patient Experience*, 8, pp.1–7.
- Al-Harajin, R.S., Al-Subaie, S.A., & Elzubair, A.G., 2019. The Association Between Waiting Time and Patient Satisfaction in Outpatient Clinics: Findings from a Tertiary Care Hospital in Saudi Arabia. *Journal of Family and Community Medicine*, 26(1), pp.17–22.
- Alarcon-Ruiz, C.A., Heredia, P., & Taype-Rondan, A., 2019. Association of Waiting and Consultation Time with Patient Satisfaction: Secondary-Data Analysis of a National Survey in Peruvian Ambulatory Care Facilities. *BMC Health Services Research*, 19(1), pp.1–9.
- Biya, M., Gezahagn, M., Birhanu, B., Yitbarek, K., Getachew, N., & Beyene, W., 2022. Waiting Time and Its Associated Factors in Patients Presenting to Outpatient Departments at Public Hospitals of Jimma Zone, Southwest Ethiopia. *BMC Health Services Research*, 22(1), pp.1–8.
- Borghi, L., Leone, D., Poli, S., Becattini, C., Chelo, E., Costa, M., De Lauretis, L., Ferraretti, A.P., Filippini, C., Giuffrida, G., Livi, C., Luehwink, A., Palermo, R., Revelli, A., Tomasi, G., Tomei, F., & Vegni, E., 2019. Patient-Centered Communication, Patient Satisfaction, and Retention in Care in Assisted Reproductive Technology Visits. *Journal of Assisted Reproduction and Genetics*, 36(6), pp.1135–1142.
- Chandra, S., Mohammadnezhad, M., & Ward, P., 2018. Trust and Communication in a Doctor-Patient Relationship: A Literature Review. *Journal of Healthcare Communications*, 3(3).
- Davis-Dao, C.A., Ehwerhemuepha, L., Chamberlin, J.D., Feaster, W., Khoury, A.E., Fortier, M.A., & Kain, Z.N., 2020. Keys to Improving Patient Satisfaction in the Pediatric Urology Clinic: A Starting Point. *Journal of Pediatric Urology*, 16(3), pp.377–383.
- De Waard, C.S., Poot, A.J., den Elzen, W.P.J., Wind, A.W., Caljouw, M.A.A., & Gussekloo, J., 2018. Perceived Doctor-Patient Relationship and Satisfaction with General Practitioner Care in Older Persons in Residential Homes. *Scandinavian Journal of Primary Health Care*, 36(2), pp.189–197.
- Dwi Lestari, D., Khodijah, P.S., & Fatimah, R., 2020. Hubungan Waktu Tunggu Pelayanan Rawat Jalan Terhadap Kepuasan Pasien Di Poliklinik Spesialis Penyakit Dalam RSUD Kota Bogor Tahun 2018-2019. *Promotor*, 3(3), pp.231.
- Galvão, T.F., Tiguman, G.M.B., Costa Filho, D.B.D., & Silva, M.T., 2020. Tempo de Espera e

- Duração da Consulta Médica Na Região Metropolitana de Manaus, Brasil: Estudo Transversal De Base Populacional, 2015. *Epidemiologia e Servicos de Saude: Revista Do Sistema Unico de Saude Do Brasil*, 29(4), pp.e2020026.
- Gong, X., Hou, M., Guo, R., & Feng, X.L., 2022. Investigating the Relationship Between Consultation Length and Quality of Tele-Dermatology E-Consults in China: A Cross-Sectional Standardized Patient Study. *BMC Health Services Research*, 22(1), pp.1–10.
- Grot, M., Kugai, S., Degen, L., Wiemer, I., Werners, B., & Weltermann, B.M., 2023. Small Changes in Patient Arrival and Consultation Times Have Large Effects on Patients' Waiting Times: Simulation Analyses for Primary Care. *International Journal of Environmental Research and Public Health*, 20(3).
- Haghighoshayie, E., & Hasanpoor, E., 2021. Letter to the Editor Regarding "Factors Affecting Outpatient Consultation Length among Specialists in Tabriz, Iran. *Evidence Based Health Policy, Management and Economics*, 5(2), pp.75–77.
- Harada, Y., & Shimizu, T., 2020. Impact of a Commercial Artificial Intelligence-Driven Patient Self-Assessment Solution on Waiting Times at General Internal Medicine Outpatient Departments: Retrospective Study. *JMIR Medical Informatics*, 8(8), pp.1–8.
- Homma, M., Ishikawa, H., & Kiuchi, T., 2018. Illness Perceptions and Negative Responses from Medical Professionals in Patients with Fibromyalgia: Association with Patient Satisfaction and Number of Hospital Visits. *Patient Education and Counseling*, 101(3), pp.532–540.
- Inoue, H., Watanabe, H., Okami, H., Kimura, A., Seichi, A., & Takeshita, K., 2018. *Spine Surgery and Related Research*. pp.113–120.
- Jabour, A.M., 2020. The Impact of Longer Consultation Time: A Simulation-Based Approach. *Applied Clinical Informatics*, 11(5), pp.857–864.
- Lee, S., Groß, S.E., Pfaff, H., & Dresen, A., 2020. Waiting Time, Communication Quality, and Patient Satisfaction: An Analysis of Moderating Influences on the Relationship Between Perceived Waiting Time and the Satisfaction of Breast Cancer Patients During Their Inpatient Stay. *Patient Education and Counseling*, 103(4), pp.819–825.
- Leow, H.T., & Liew, S.M., 2022. A Cross Sectional Study on Patient Satisfaction and Its Association with Length of Consultation at the University Malaya Medical Centre Primary Care Clinic. *Malaysian Family Physician*, 17(2), pp.71–80.
- Li, Y., Gong, W., Kong, X., Mueller, O., & Lu, G., 2020. Factors Associated with Outpatient Satisfaction in Tertiary Hospitals in China: A Systematic Review. *Int. J. Environ. Res. Public Health*, 17, pp.7070.
- Molina Indarwati, P.T.P., 2018. Evaluation of Administrative Service Quality Towards JKN Patient Satisfaction. *Jurnal Kesehatan Masyarakat*, 14(1), pp.41–48.
- Pockros, B., Nowicki, S., & Vincent, C., 2021. Is It Worth the Wait? Patient Perceptions of Wait Time at a Primary Care Clinic. *Family Medicine*, 53(9), pp.796–799.
- Qiao, T., Fan, Y., Geater, A.F., Chongsuvivatwong, V., & McNeil, E.B., 2019. Factors Associated with the Doctor–Patient Relationship: Doctor and Patient Perspectives in Hospital Outpatient Clinics of Inner Mongolia Autonomous Region, China. *Patient Preference and Adherence*, 13, pp.1125–1143.
- Quyen, B.T.T., Ha, N.T., & Van Minh, H., 2021. Outpatient Satisfaction with Primary Health Care Services in Vietnam: Multilevel Analysis Results from The Vietnam Health Facilities Assessment 2015. *Health Psychology Open*, 8(1).
- Sharma, N., Aggarwal, A.K., Arora, P., & Bahuguna, P., 2022. Association of Waiting Time and Satisfaction Level of Patients with Online Registration System in a Tertiary Level Medical Institute Outpatient Department (OPD). *Health Policy and Technology*, 11(4).
- Sianturi, H.H., Hadiwiarjo, Y.H., & Anisah, A., 2020. Hubungan Waktu Tunggu dan Cara Bayar terhadap Kepuasan Pasien Rawat Jalan Poli Penyakit Dalam Rumah Sakit PGI Cikini Jakarta. *Jurnal Ilmiah Kesehatan Masyarakat: Media Komunikasi Komunitas Kesehatan Masyarakat*, 12(3), pp.131–136.
- Sinyiza, F.W., Kaseka, P.U., Chisale, M.R.O., Chimatata, C.S., Mbakaya, B.C., Kamudumuli, P.S., Wu, T.S.J., & Kayira, A.B., 2022. Patient Satisfaction with Health Care at a Tertiary Hospital in Northern Malawi: Results from a Triangulated Cross-Sectional Study. *BMC Health Services Research*, 22(1), pp.1–9.
- Srinivas, S., & Salah, H., 2021. Consultation Length and No-Show Prediction for Improving Appointment Scheduling Efficiency at a Cardiology Clinic: A Data Analytics Approach. *International Journal of Medical*

- Informatics*, 145, pp.104290.
- Tenforde, A.S., Borgstrom, H., Polich, G., Steere, H., Davis, I.S., Cotton, K., O'Donnell, M., & Silver, J.K., 2020. Outpatient Physical, Occupational, and Speech Therapy Synchronous Telemedicine; A Survey Study of Patient Satisfaction with Virtual Visits during the COVID-19 Pandemic. *American Journal of Physical Medicine and Rehabilitation*, 99(11), pp.977–981.
- Wang, Q., Adhikari, S.P., Wu, Y., Sunil, T.S., Mao, Y., Ye, R., Sun, C., Shi, Y., Zhou, C., Sylvia, S., Rozelle, S., & Zhou, H., 2022. Consultation Length, Process Quality and Diagnosis Quality of Primary Care in Rural China: A Cross-Sectional Standardized Patient Study. *Patient Education and Counseling*, 105(4), pp.902–908.
- Wartiningsih, M., Silitonga, H.T.H., Ritunga, I., Prayogo, M.C., & Wijaya, E.D., 2022. Patient Satisfaction Improvement by Comprehensive Holistic Services at Public Health Centre X Surabaya. *Kemas*, 18(2), pp.164–173.